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Truly Yours
Andrew Carnegie

1910

THE CARNEGIE INSTITUTION

Annual Report of the Board of Directors
for the year ending
April 1, 1910



Pittsburgh, Pa.

1910



July 1
1880

Pittsburg. Carnegie Institute

1909

THE CARNEGIE INSTITUTE

Annual Report of the President of the
Board of Trustees, for the Fiscal Year
April 1, 1909—March 31, 1910=====



Pittsburgh, Pa.

1910



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BOARD OF TRUSTEES OF THE CARNEGIE INSTITUTE

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S. H. CHURCH, *Secretary*
JAMES H. REED, *Treasurer*

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A. BRYAN WALL
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STANDING COMMITTEES

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REV. A. A. LAMBING	A. J. EDWARDS
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FINANCE COMMITTEE

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DR. F. C. BLESSING	GEORGE T. OLIVER
R. A. FRANKS	JAMES H. REED

PENSION COMMITTEE

CHARLES L. TAYLOR, *Chairman*

HENRY K. PORTER	JOSEPH R. WOODWELL
JAMES H. REED	DR. F. H. COLHOUE

DEPARTMENT OF FINE ARTS

JOHN W. BEATTY, *Director*

DEPARTMENT OF THE MUSEUM

DR. W. J. HOLLAND, *Director*

DEPARTMENT OF TECHNICAL SCHOOLS

DR. A. A. HAMERSCHLAG, *Director*



THE CARNEGIE INSTITUTE

THE PRESIDENT'S REPORT

TO THE MEMBERS OF THE BOARD OF TRUSTEES OF THE CARNEGIE INSTITUTE.

GENTLEMEN:—I take pleasure in presenting the reports of the various Committees and Officers of the Board, which will give you full information of the condition of affairs and the amount of work done during the past year.

The Finance Committee of the Hero Fund Commission recommended at a meeting recently held that the Commission transfer from its accumulated surplus, to the Treasurer of the Carnegie Institute for the use of the Technical Schools, the sum of \$100,000.00, \$50,000.00 to be paid during each of the two following years. The Commission has not met since this action was taken and probably will not meet until some time in May. However, we are justified in presuming that it will endorse the recommendation of its Finance Committee. This will release an equal amount of money from our regular endowments, and will, I trust, enable the Board to treat the Museum of Fine Arts Departments with somewhat more liberality.

I would also recommend that a certain sum of money be set aside for the purchase of a new organ, even if the entire amount cannot be contributed in one year. The Manager of the Music Hall recommends that the accumulated profits of the Music Hall, amounting on the first of February last to \$11,514.00, be used for this purpose.

It is admitted by all who know anything about organs, and strongly maintained by the Director of Music, that the instrument in the Carnegie Music Hall is entirely out of date. It was installed fifteen years ago and was one of the first organs built

with electric action. Since that time great improvements have been made, and, as Mr. Heinroth says, the organ has advanced more in the last ten years than in the previous one hundred.

During the past year Mr. Pitcairn and Mr. Caldwell have been called away by death, and Mr. Mellor died just before the last annual meeting of the Board. Official action has been taken in the matter, but I desire to place on record the feeling of personal loss sustained by myself. All three had been connected with the Board since its formation, all had filled positions of prominence and had left the impress of his personality on that portion of the Board's work with which he had the most to do. It is strange and most regrettable that the Vice-President of the Board, the Chairman of its Museum Committee, and the Chairman of its Fine Arts Committee, by natural training and the experience of fifteen years well qualified for their work, should be summoned practically within a year.

Respectfully submitted,

W. N. FREW,
President.

REPORT OF AUDITING COMMITTEE

HONORABLE JOSIAH COHEN, Chairman, Auditing Committee, The Carnegie Institute and The Carnegie Technical Schools.

DEAR SIR: I have examined the books of the Treasurer and the Annual Report submitted by him in connection with the Carnegie Institute and the Carnegie Technical Schools for the fiscal year ending March 31st, 1910, and find that the receipts and disbursements have been properly accounted for.

The cash balance, as shown on the report, agrees with the amount on deposit in Mellon National Bank as of March 31st, 1910.

I have handled all the vouchers and found that in every instance that they were properly authorized and that the receipts have been duly signed by the person or company to whose order the voucher was drawn and for the amount called for by the voucher.

The following vouchers have been drawn and charged through the disbursements but have not yet been returned through the bank:

No. 14473	To Charles Ebert.	\$ 3.38
16429	A. J. Lohr	12.50
16814	A. J. Lohr	50.00
16898	F. R. Woodside	25.00
16942	M. J. Stribling	75.00

I have verified the carbon copy of the Treasurer's Report and herewith hand same to you.

Very truly yours,

J. E. NELSON.

April 19th, 1910.

HONORABLE JOSIAH COHEN, Chairman, Auditing Committee, The
Carnegie Institute and Carnegie Technical Schools.

DEAR SIR: I have examined the books of the Auditor, and the Annual Statement submitted by him in connection with the Carnegie Institute and the Carnegie Technical Schools for the fiscal year ending March 31st, 1910.

I find that the receipts and disbursements agree in every instance with the Treasurer's books and that the balances carried are the same.

The distribution of the vouchers and the accounts of the various departments have been gone over and all the figures verified.

I hand you herewith the carbon copy of the Annual Statement which was submitted to me and which I have verified and signed.

Very truly yours,

J. E. NELSON.

April 18, 1910.

REPORT OF PENSION COMMITTEE

MR. WM. N. FREW, President, Board of Trustees, Carnegie Institute, Pittsburgh, Pa.

DEAR SIR: Your Pension Committee begs to report a credit of \$15,000, representing appropriations of the past three years, against which no charges have been made.

Mr. Church and the writer are engaged upon the preparation of certain statistics, bearing upon pension feature for the Institute, to be submitted to Mr. Carnegie for his consideration and at his request.

Respectfully submitted,

CHAS. L. TAYLOR,

Chairman, Pension Committee.

April 20th, 1910.

REPORT OF TREASURER

(CONDENSED)

ANNUAL STATEMENT THE CARNEGIE INSTITUTE

For the fiscal year ending March 31st, 1910.

REVENUE

Balance April 1st, 1909	\$161,857.53	
Interest on U. S. S. Corporation Bonds	450,000.00	
Interest on Pittsburgh Coal Co. Bonds	1,000.00	
Interest on Daily Bank Balances . .	4,862.65	
Technical Schools—Tuition Fees, etc .	59,908.00	
Fine Arts Department—Sale of Catalogues, etc.	2,066.66	
Museum Department—Sale of Publications, etc.	458.14	
Construction and Equipment—Refunds.	529.82	
	<hr/>	\$680,682.80

DISBURSEMENTS

Fine Arts Department	\$ 59,517.29	
Museum Department.	67,058.17	
Technical Schools	309,763.98	
Technical Schools — Construction and Equipment	10,907.85	
Carnegie Library—		
Building Department	58,245.69	
Training School	8,750.00	
Contingent Fund—		
Executive and Founder's Day Expenses	10,330.96	
Insurance Reserve Fund — Fine Arts Department	33.35	
Balance	156,075.51	
	<hr/>	\$680,682.80

REPORT OF FINANCE COMMITTEE

W. N. FREW, ESQ., President, Board of Trustees, Carnegie Institute, Pittsburgh.

DEAR SIR: The Committee on Finance submits its annual report covering the period to March 31, 1910.

It has in its custody the following securities belonging to the Institute:

Six million Dollars, at par value, of the First Mortgage Fifty Year Five Per Cent. Registered Gold Bonds of the United States Steel Corporation, constituting the General Endowment Fund.

Three Million Dollars, at par value, of the First Mortgage Fifty Year Five Per Cent. Registered Gold Bonds of the United States Steel Corporation, constituting fund as an endowment of the Carnegie Technical School.

Twenty Thousand Dollars, at par value, of the First Mortgage Bonds of the Pittsburgh Coal Company, held as the Insurance Reserve Fund.

There has been no change in the securities during the year, the above being the same as shown in the last annual report. They are all registered in the name of the Institute, and kept in the safe deposit box of the Institute in custody of this Committee. All of the income receipts derived therefrom appear in the Treasurer's report.

Respectfully submitted,

FINANCE COMMITTEE,

A. W. MELLON, *Chairman*,

J. H. REED.

April 19, 1910.

THE CARNEGIE INSTITUTE

PITTSBURGH

Fourteenth Annual Report of the
Director of Fine Arts, for the
Year Ending March 31, 1910

FINE ARTS COMMITTEE

1909-1910

JOSEPH R. WOODWELL, *Chairman*

WILLIAM N. FREW

E. M. BIGELOW

A. BRYAN WALL

GEORGE E. SHAW

WILLIAM MCCONWAY

MARTIN B. LEISSER

DR. A. C. MAGILL

DIRECTOR OF FINE ARTS

JOHN W. BEATTY, A.M.

FOREIGN ADVISORY COMMITTEES

1909-1910

LONDON—EDWIN A. ABBEY
**SIR LAWRENCE ALMA-TADEMA
JOHN LAVERY
F. D. MILLET
W. Q. ORCHARDSON
JOHN SINGER SARGENT
J. J. SHANNON
*JOHN M. SWAN

PARIS—EDMOND AMAN JEAN
P. A. J. DAGNAN-BOUVERET
RAPHAËL COLLIN
CHARLES COTTET
WALTER GAY
LÉON AUGUSTIN LHERMITTE
GARI MELCHERS
JEAN PAUL LAURENS
CHARLES SPRAGUE PEARCE
JEAN FRANÇOIS RAFFAELLI

MUNICH—LUDWIG VON LÖFFTZ
CARL MARR
TOBY E. ROSENTHAL
FRANTZ VON STUCK

THE HAGUE—B. J. BLOMMERS
G. H. BREITNER
GARI MELCHERS
H. W. MESDAG

*Deceased

**Withdrawn

TO W. N. FREW, President of the Board of Trustees of the Carnegie Institute, Pittsburgh:

DEAR SIR: The report of the Director of Fine Arts, which I herewith transmit to you, very fully covers the work of the Department of Fine Arts for the past year, which has been a most successful one.

The two important exhibitions referred to, the International Exhibition of Paintings, and the Saint-Gaudens Memorial Exhibition, were notable efforts in the year's work, and their influence was undoubtedly very great.

Very respectfully,

JOSEPH R. WOODWELL,
Chairman of the Fine Arts Committee.

REPORT OF JOHN W. BEATTY, DIRECTOR, DEPARTMENT OF FINE ARTS, CARNEGIE INSTITUTE, PITTSBURGH, FOR THE YEAR ENDING, MARCH 31, 1910.

LETTER OF TRANSMITTAL

MR. JOSEPH R. WOODWELL, Chairman of the Fine Arts Committee, Board of Trustees of the Carnegie Institute.

DEAR SIR: I herewith hand you my report, as Director of the Department of Fine Arts, for the year ending March 31st, 1910.

It is with a very deep sense of our loss in the death of Mr. Caldwell, who for almost fourteen years was the Chairman of the Fine Arts Committee, and whose devotion to the work of the Institute was well known to you, that I thus officially close the fourteenth year of our work.

Almost the last act of Mr. Caldwell's life was one of service to the Department of Fine Arts, and his latest conference with your Director was on the Saturday preceding his death, when he spent several hours at the Institute.

An important meeting of the Committee was to have been held, as you know, on the day of his death, and within a few hours of the sad occurrence.

Always a man of extreme earnestness and sincerity, his service, which was valuable and disinterested, will be missed by us all, as we carry on the work which he so sincerely loved.

Permit me to express, through you, my sincere appreciation of the unvarying kindness and consideration of the members of the Committee, and of the Board of Trustees during the year.

Very sincerely yours,

JOHN W. BEATTY,
Director of Fine Arts.

Pittsburgh, March 31, 1910.

TO THE BOARD OF TRUSTEES OF THE CARNEGIE INSTITUTE OF
PITTSBURGH:

GENTLEMEN: I have the honor to present to you my fourteenth annual report as Director of the Department of Fine Arts.

The most important exhibitions presented by the Department of Fine Arts in the past year were the Thirteenth International Exhibition of Paintings and the Saint-Gaudens Memorial Exhibition of statuary, medals, cameos and photographs.

In order that the works of Augustus Saint-Gaudens might be suitably installed, and presented with becoming dignity, the collection of sculptural casts was withdrawn from the Hall of Sculpture, and in this hall and in a portion of the great hall situated at the rear of the Hall of Sculpture and the Hall of Architecture, were installed the works of the eminent American sculptor, Saint-Gaudens.

The larger, or more important, monumental works, were placed between the marble columns of the Hall of Sculpture, while the impressive standing Lincoln and the figure of the Sherman Victory occupied the ends of the hall.

The collection was educational and impressive in the highest degree, and it conveyed to the minds of all our people a very definite sense of the dignity of art, and a pleasurable realization of the beauty, distinction and worth of the life-work of one of the most sincere and earnest artists of our time.

Indeed, it would be hard to overestimate the importance of this memorial exhibition, or its direct influence upon the entire community.

For valuable assistance, in the installation of the collection, we were indebted to Mr. Glenn Brown, of Washington, who gave us the benefit of his experience in the installation of the collection at Washington; and to the various institutions and the individuals who contributed the works we were especially indebted.

The other exhibition of unusual importance was the Thirteenth International Exhibition of Paintings.

This Thirteenth International Exhibition of Paintings was the third spring exhibition presented by the Department of Fine Arts since the period of holding the exhibition was changed from the months of November and December to the months of May and June.

The success of these two exhibitions, but notably of the last one, demonstrated, I think, the wisdom of the change of time from the autumn season to the spring season.

The exhibition of last year was the most notable, in average quality, thus far shown, and the attendance, which was very large, was maintained to the end of the exhibition.

It has been found in the practical execution of exhibition plans, that the painters who reside in Europe, and whose contributions are sought, may be found and communicated with during the months of January, February, and March, the months of active work in anticipation of a spring exhibition, but that very many of them cannot be found during the midsummer months of July, August, and September, the relative months in relation to an autumn exhibition. It is a self-evident fact that artists who spend the summer season in the country are not in the cities during these latter months, the months of July, August, and September.

The Thirteenth Annual Exhibition numbered two hundred and ninety-seven works, but the number of works is not a complete measure of success.

A smaller number of works than this number, if carefully selected, will present a more attractive collection in our annual exhibition galleries, and permit of a more dignified arrangement, because the varying qualities of paintings, if crowded together, will invariably detract one from the other.

ACCESSIONS

There has been installed under the balcony in the hall of casts of architecture a group of casts of unusual interest. This group represents Egyptian, Assyrian, Phoenician, Cypriote, Grecian, Etruscan, Roman and Byzantine forms of architecture. The following is a list of the casts of architecture installed:

EGYPTIAN:

Side of sarcophagus of Kufu-Ankh (Cheops); now in the Boulak Museum (Cairo).

Granite head of Hathor from a sacred boat; now in the British Museum.

Capital of column (half only); now in the British Museum.

Porphry column with lotus-bud capital, inscribed with the names of Amenophis III, Menepthah and Setnekht.

Capital for a massive granite column, inscribed with the names of Rameses II, and Menepthah I, Kings of Egypt.

Capital, head of Hathor; now in the Louvre.

Head of a lion; now in the Louvre.

Lintel of doorway from the tomb of Meri at Sakkarah; now in the Louvre.

ASSYRIAN:

Triangular altar from Khorsabad; now in the Louvre.

Threshold of a doorway from the Palace of Khorsabad:—the palace and city of King Sargon.

Fragment of pavement from the Northern Palace of Koyunjik (the ancient Nineveh); now in the British Museum.

PHOENICIAN:

Sculptured colonette from Tyre; now in the Louvre.

Stele of Aradus; now in the Louvre.

Stele; now in the Louvre.

CYPRIOTE:

Cypriote capital, with head of the Egyptian goddess, Hathor; now in the Louvre.

Capital found at Trapeza, near Famagousta.

Capital from Athieno.

GREEK :

Half capital, Temple of Assos in the Troad.

Half capital of the Erechtheum.

Ionic capital.

Throne of the priest from the Theatre of Dionysos, Athens.

ETRUSCAN :

Cinerary hut urn ; now in the Royal Museum, Berlin.

Cinerary chest in the form of a house ; now in the Royal Museum, Berlin.

Large sepulchral chest ; now in the British Museum.

Small sepulchral chest ; now in the British Museum.

ROMAN :

Table supports, house of Cornelius Rufus, Pompeii.

Cornice of the Temple of Concord at Rome.

Entablature of the Temple of Vespasian at Rome.

Fragment of frieze with cherub and griffin, from the Forum of Trajan ; now in the Lateran Museum, Rome.

Fragment of frieze with cherub and vase, from the Forum of Trajan ; now in the Lateran Museum, Rome.

Ionic capital from the Forum of Trajan ; now in the Lateran Museum, Rome.

Vase or urn ; now in the Vatican Museum, Rome.

Vase or urn ; now in the Vatican Museum, Rome.

Doric capital from the Roman Forum.

Candelabrum ; now in the Vatican Museum, Rome.

The Borghese altar ; now in the Louvre.

Corinthian capital ; now in the Ephesus room of the British Museum.

BYZANTINE :

Capital from the Cathedral of Santa Maria at Torcello.

Five details from the Cathedral of Santa Maria at Torcello.

Fragment of an exterior cornice from the Cathedral of San Donato at Murano.

Capital from the Cathedral of San Donato at Murano.

Capital in narthex (portico) of the Church of St. Mark at Venice.

Capital from the portal of the Church of St. Mark at Venice.

Frieze from the portal of the Church of St. Mark at Venice.
One side of an octagonal well-curb from the Berri Palace at Venice.

A capital and carved mouldings from the Church of San Vettore at Feltre.

Thirteen details from palaces and churches at Venice, Murano, and Torcello.

Four paintings were purchased from the last International Annual Exhibition, and one was acquired by exchange, the total cost for the five works being nine thousand two hundred and five dollars and sixty-five cents.

These works were added to the permanent collection of paintings.

It is the purpose of the Committee, so far as possible, to purchase works for the permanent collection from the annual exhibition collections.

With this purpose in view, a portion of the Committee's fund has been reserved, in order that works, if found available, may be selected from the forthcoming international exhibition.

The advantage of this policy will be manifest, and is in fulfillment of the statement made in the published announcement sent to painters who are asked to contribute to the annual exhibitions.

EXHIBITIONS

The total number of paintings entered for the thirteenth annual exhibition of 1909 was 721; 656 were received. Of this number 297 were hung and exhibited. One of these was not catalogued on account of its late arrival.

These 297 works were contributed by 194 artists from various countries, as follows:

America	95
France	49
England	22
Germany	6
Holland	9
Scotland	7
Italy	2
Belgium	2
Spain	2

The votes for the international jury of award for the thirteenth annual exhibition resulted in the election of the following artists:

John W. Alexander	New York City.
George H. Breitner	Amsterdam.
William M. Chase	New York City.
Alfred East	London.
Ben Foster	New York City.
W. L. Lathrop	New Hope, Pa.
Leonard Ochtman	Cos Cob, Conn.
Edward W. Redfield	Center Bridge, Pa.
William S. Robinson	New York City.
W. Elmer Schofield	Philadelphia.

Seven awards were made by the jury, on behalf of the Institute, as follows:

Medal of the first class (gold), carrying with it a prize of \$1,500, to Edmund C. Tarbell, Boston, Mass., for his painting entitled: Girl Crocheting.

Medal of the second class (silver), carrying with it a prize of \$1,000, to George Sauter, London, England, for his painting entitled: The Bridal Morning.

Medal of the third class (bronze), carrying with it a prize of \$500, to Bruce Crane, New York City, for his painting entitled: November Hills.

Honorable Mention to Arnesby Brown, Cornwall, England, for his painting entitled: The Gate.

Stanhope A. Forbes, Penzance, England, for his painting entitled: The Village Industry.

E. A. Hornel, Kirkcudbright, Scotland, for his painting entitled: Amusement.

Elizabeth Sparhawk-Jones, Philadelphia, for her painting entitled: In Rittenhouse Square.

As has been our custom for several years, a Summer Loan Exhibition of oil paintings was organized and installed in galleries E and F, on the second floor, and this exhibition, which

was one of excellent quality as a whole, was continued during the months of August, September, and October, thus affording pleasure and instruction to many people during the midsummer and early autumn seasons.

The Department was indebted for this group of paintings to the following persons:

Mr. Thomas P. Anshutz	Mr. T. M. Osborne
Mr. Paul Wayland Bartlett	Mr. Leonard Ochtman
Mr. Gifford Beal	Mr. Bela L. Pratt
Mr. John Caldwell	Mr. Edward W. Redfield
Mr. Emil Carlsen	Mr. William S. Robinson
Mr. William M. Chase	Mr. Edward F. Rook
Mrs. Charlotte B. Coman	Mr. W. Elmer Schofield
Mr. Howard Gardiner Cushing	Elizabeth Sparhawk-Jones
Mr. William Childs	Mr. Frederick J. Waugh
Mrs. Charles Donnelly	Mr. J. Alden Weir
Lillian Matilde Genth	Dr. George Woodward
Mr. Childe Hassam	Mr. Irving R. Wiles
Mr. William Sergeant Kendall	Mr. Alexander T. Van Laer
Mr. W. L. Lathrop	Mr. Douglass Volk
Mr. Ernest Lawson	Mr. Charles Morris Young
Mr. Philip Little	

In November, an exhibition of Ceramic Art was presented in gallery I, by the Duquesne Ceramic Club; and in January an exhibition of photographs was installed, in galleries J and K, under the auspices of the Pen, Pencil and Camera Club.

Both these exhibitions created much interest and attracted many people to the Institute.

In January there was presented, under the auspices of the Pittsburgh Art Society, in galleries I and L, a collection of Small Bronzes by American Sculptors, and a collection of Etchings by Joseph Pennell.

These exhibitions were unusually important and beautiful, and they aroused great interest among art lovers and people of culture. The collection of small bronzes was the most important and representative collection of its kind ever shown in Pittsburgh, and many of the eminent American sculptors were represented in the group.

In February there were two exhibitions presented; one under the auspices of the Pittsburgh Architectural Club, a collection of competitive drawings, and the other under the direction of the Pittsburgh Art Society, a representative collection of water colors.

In March the great annual Architectural exhibition, organized by the Pittsburgh Architectural Club, was presented in galleries L, M, N, and O.

These annual architectural exhibitions are among the most important of the year, shown in Pittsburgh, and their influence is undoubtedly very great. They are interesting especially to the many men and women engaged in designing architectural plans for the people of our city, and the interest is scarcely less to those who contemplate erecting buildings of various kinds.

It would be difficult to overestimate the importance of this annual architectural exhibition, which brings to Pittsburgh the results, in drawings and plans, of the efforts of the ablest architects of America.

It is the policy of the Department of Fine Arts to encourage and foster exhibitions of this character, and to render every assistance possible in the effort to bring them to Pittsburgh.

SCHOOL WORK

The circulating exhibition of large photographs representing the Institute's permanent collection of paintings, in the Public Schools of Pittsburgh, have continued under plans carefully prepared at the beginning of the school year.

There are two sets of these photographs. One set circulates through the schools of the old city and the other through the schools of the North Side. The period of exhibition in each school is two weeks.

Informal talks upon the pictures are given by the teachers, after which the older pupils prepare essays expressing their own ideas with reference to the pictures.

This work familiarizes the student with the paintings in the permanent collection, and arouses interest in the Institute and its work.

The interest is perpetuated by the advancement of the primary students to the advanced grades, from year to year, and a

decided incentive to continued interest is found in the fact that each year the Institute adds to the collections, photographs of all the new paintings purchased within the year.

A NECESSARY CHANGE OF PLAN

Reference was made in the annual reports of 1908 and 1909 to the purpose of the Department of Fine Arts to establish, in the great hall at the rear of the Halls of Architecture and Sculpture, a collection of modern sculpture.

This collection, it was intended, should complete the chronological history of sculpture, and bear, by its proximity and appropriate relation to the department of ancient sculpture, an important part in the educational influence of the Institute. It was the purpose to give the great modern sculptors, and especially those of America, representation in the Department of Fine Arts, of the Carnegie Institute.

Much work had been done in the direction of forming the collection, very many photographs representing the works of American sculptors, and much important data, having been collected with the view of facilitating the assembling of works.

It was also the purpose of the Department to include in the department a comprehensive representation of Colonial architecture, which should be unique.

This plan will, of necessity, have to be abandoned for the reason that the Building Committee, sometime in the past summer, transferred this hall from the Department of Fine Arts to the Department of the Museum. There does not remain in the Department of Fine Arts another hall, suitable, either in character or location, for these collections.

NEED OF A LARGER FUND

The Department of Fine Arts should have, if possible, a larger amount of money with which to purchase original works of art.

The International Annual Exhibition which is, of course, extremely important, consumes a very large portion of our fund annually, but this expenditure does not add to our permanent collections.

The amount spent in the past year for permanent acquisitions was very small, but no larger amount could be used in view of the committee's desire to hold in reserve a portion of the fund for the purchase of a few paintings from the coming annual exhibition, this policy being, as has been said, in fulfillment of the promise made in the annual exhibition announcement.

The policy of the committee in reserving some portion of the year's fund for this purpose, is in fulfillment of the promise made in the annual exhibition announcement.

The plaster casts which now occupy our halls are not enduring, and their temporary preservation in the damaging climate of Pittsburgh is the occasion of constant expense. Even with the utmost care it is not possible to preserve them in their original character.

At best, they are but imperfect representations of the original works; and although the great original works of the past, from which casts are made, cannot be secured, it would be highly desirable to acquire, for the education and pleasure of the people of Pittsburgh, a few original works, both ancient and modern.

It is the recognized policy of every important art institution to acquire original works, so far as practicable, and works of unusual artistic quality may be, and are, occasionally found.

Original works, however, in whatever material or of whatever character, are, in the nature of things, expensive; and as a rule they must be purchased when the opportunity offers.

It is, therefore, not only important that a fund be kept on hand for the purchase of original works, when they are available, but that a larger amount be furnished the Department of Fine Arts with which to purchase such works, if this may be done without encroaching upon the equal share of the amount which is from year to year apportioned to the Museum Department.

CHANGES IN ADVISORY COMMITTEE

It is with deep regret, and a profound sense of personal loss, that I report the death of John M. Swan, of London, who was, for thirteen years, a member of the Institute's Advisory Committee.

Mr. Swan came to America in 1897 as a member of the International Jury of Award, and while here he won the admiration and esteem of all those who met him.

His great power as a painter and sculptor, combined with his genuine interest in the work of the Institute, made him a valuable member of the Advisory Committee.

I also have to report the withdrawal of Sir Laurence Alma Tadema from the London Advisory Committee.

The following paper, read upon the occasion of the dedication of the building of the Museum of Fine Arts, Boston, November 9, 1909, by the Director of the Department of Fine Arts, is added to this report by order of the Fine Arts Committee:

INTERNATIONAL EXHIBITIONS

A paper read at the Boston Museum of Fine Arts.

Since the Carnegie Institute was founded, in 1896, it has organized and presented twelve international exhibitions of paintings, each of which was composed of about three hundred works. These exhibitions have been broadly representative of the modern art of painting of the world. The countries represented, from year to year, were America, Austria, Belgium, Denmark, Holland, England, France, Germany, Ireland, Italy, Norway, Russia, Scotland, Spain, South America, Sweden, and Switzerland. The average cost of each exhibition was, in round figures, fifteen thousand dollars, which amount included three thousand dollars awarded as prizes, and the expense incident to assembling the collection and entertaining an international jury of award.

The gathering of paintings in many countries, the presentation of those assembled in London, Paris, Munich, and The Hague, to Advisory Committees for consideration, the return of the works, not accepted, to their owners, the bringing of accepted works safely to this country, and the many details connected with the election and the operations of an international jury of award, impose each year a prodigious amount of labor which, together with the financial output, represent the debtor side of the international exhibition account.

But let us consider the credit side of the account. The first item, and probably the most important, is the influence of international exhibitions upon the art of the countries in which they are held. It is not too much to say, I think, that fourteen years ago American art was not adequately estimated or fairly appreciated by the American public. The impression prevailed, especially among purchasers of paintings, that the works of European artists were more important, artistically, than those produced by American painters. Probably one reason for this general opinion was the conviction that the foreign painters enjoyed superior educational advantages; but those who entertained this impression ignored the fact that American painters studied abroad as well as at home. Furthermore, the dealers, upon whom purchasers were to a great extent dependent for expert opinion, anticipating the preference of their patrons, were prone to extol the assumed superiority of foreign works. The products of our own painters received scant consideration. The foreign work had a decided advantage in the open market. Even the art museums were slow to recognize some of our able painters. Whistler was recognized in France by the purchase of the portrait of his "Mother," for the Luxembourg, and in Scotland by the purchase of his "Carlisle," for the Corporation Gallery, before he was publicly recognized in America. It was not until 1896, when his portrait of "Sarasate" was purchased by the Carnegie Institute, that he was thus recognized here. And only within very recent years has Twachtman, one of the most brilliant modern painters, been fully recognized. Indeed, although Twachtman died thirteen or fourteen years ago, it was not until 1905 that one of his paintings was placed in a public collection, since when the following list of his works have been purchased by art institutions:

"Greenwich Hills," Carnegie Institute, 1905; "Sailing in the Mist," Pennsylvania Academy, 1906; "The Forest" and the "End of the Winter," W. T. Evans, for National Collection, 1907; "February," Boston Museum, 1907; "Summer Day," John Herron Art Institute, 1907; "Fishing Boats at Gloucester," W. T. Evans, another work for the National Collection, 1907; The Carnegie Institute exchanged "Greenwich

Hills" for "River in Winter," a larger canvas, 1907; "Round the Hill Road," W. T. Evans, 1908; "Waterfall," and "Snow," Worcester Museum, 1908 and 1909; "The Pool," Detroit Museum, 1909; "The Falls," Metropolitan Museum, 1909; and some years ago Frank Duveneck, the painter, presented to the Cincinnati Museum "The Waterfall."

I have referred to Whistler and Twachtman because I am especially familiar with these instances, and with the purpose of demonstrating that Art Museums have not always been as prompt as they should have been to recognize the ability of American painters. As a result of these conditions, comparatively few American paintings or sculptures were offered in the marts of trade, and, therefore, the opportunities of comparison were not at hand. Quite naturally the lack of appreciation was felt by the artists.

To counteract these conditions many influences were doubtless at work, but I believe a potent force in their correction may be traced to the frequently recurring international exhibitions at the Carnegie Institute, wherein, year after year, some hundred and fifty paintings representative of the ablest masters of Europe were mingled with a like number representing the strongest men of America. Many art lovers, from many cities widely separated, came, year after year, to study the exhibitions, and, what was probably more important as affecting the result, eminent and able art editors and correspondents of this country also, who later spread their impressions broadcast, through the monthly, weekly, and daily journals. Never before had so many opportunities, following each other in quick succession, been offered the critical and interested to make comparison of the art of the old and new worlds, and the effect was quickly and broadly felt. Among those who came to see and those who read, a dominant impression prevailed, namely, that the American works were as strong and beautiful as those of any other country. The result was twofold. First, the creating of a profound respect for American art among art lovers, and, second, the inspiration in the minds of the American painters of a wholesome and helpful confidence.

In addition to the public and professional interest thus

aroused, there came into existence other and not less potent factors. Each year there was elected, by the votes of some seven hundred contributors, an international jury composed of two foreign and eight American painters. The jurors thus elected met, from year to year, at Pittsburgh, to pass final judgment upon the works assembled, and to bestow the awards. The foreign members elected have been Robert W. Allan, Edmond Aman Jean, Rene Billotte, George Breitner, Emil Claus, Charles Cottet, Alexander Harrison, John Lavery, Albert Neuhuys, J. F. Raffaelli, Alexander Roche, William Stott, John M. Swan, Fritz Thaulow, Edwin Lord Weeks, Anders L. Zorn, and Alfred East: men of the first rank whose generous and spontaneous expressions of appreciation of American works have strengthened and confirmed the faith of the American exhibitors. Thus, through the medium of the men who have assembled as jurors in the last thirteen years, a just estimate of the strength of the American school of painting found authoritative expression, and this judgment, subsequently, upon the return of the jurors to their homes, found voice in many lands.

It is not claimed that the rapid advancement made in appreciation of American art in the last thirteen years was due solely to the influence of the international exhibitions at Pittsburgh. As I have said before, many influences have been at work. The frequent exhibits of art societies, and others of current productions, have had great weight. The founding of a National Collection by Mr. Evans at Washington, and the important additions to the Metropolitan Museum Collection by Mr. Hearn, have rendered invaluable service to American art. But I do believe that these international exhibitions, by affording a means of international comparison, have exerted a mighty influence. They have demonstrated to the most obtuse, directly and through many and various avenues, that our American art is equal in quality and spirit to the very best modern art of the world, so that there now exists a greater demand for American works than at any previous time in the history of our country.

Important as this is in a national sense, it is not more significant than the results realized in our own community. Art is

universal, and the study of the art of any country affords only a partial view of the subject. Few people of any nation enjoy the advantages of travel. Even art directors, who are, proverbially, much traveled men, sometimes forget this. And there is another consideration. When the average man becomes a traveler, he is, as a rule, many degrees beyond the influence of broad education. Our best work is done among the young people, the students who acquire a knowledge of art readily, because they are free from prejudices, and because their minds are receptive. It would be interesting to know how many students of the high school classes in any American city have visited Europe. It would be equally interesting to know how many have visited a large city, other than their own, in this country. I hazard the guess that not one per cent would be found in the first class, and not five per cent in the second class. These young people cannot go to Europe to secure a comprehensive view of art, and the only thing to be done, if they are to secure this view, is to bring European art to them. I think it very probable that the student class, the impressionable, eager, knowledge-seeking young people of Pittsburgh have a broader knowledge of modern art than the young people of any other city in America. They have come to the galleries in tens and in thousands, alone and in care of teachers. For some five years they came under a systematic plan, in which the school authorities coöperated by preparing and circulating schedules, and by detailing teachers to accompany the students. These school groups, often numbering as many as three hundred, included all the students of the several high schools, the high school classes of all the schools, and also all the primary and second grade teachers of the entire school system, as well as the teachers of drawing. In connection with this school work, large framed photographs, representing our entire permanent collection of paintings in the Carnegie Institute, are circulated every year through the public schools. This school work could not be done in the same broad way without the presence, annually, of the international exhibition, nor could the people of Pittsburgh generally receive in any other way the same measure of education and pleasure.

Our international exhibitions, therefore, have exerted a two-

fold influence: they have helped to bring the American painter into his own, by demonstrating, in a practical way, the equality of his work with the best of the world, and they have afforded our own people exceptional educational advantages.

FINANCIAL

Statements of the receipts and disbursements of the Department and of the condition of the insurance reserve fund for the years ending March 31, 1910, are appended.

Respectfully submitted,

JOHN W. BEATTY,
Director of Fine Arts.

Carnegie Institute, April 1, 1910.

TABLE 1

ATTENDANCE RECORDS OF ANNUAL EXHIBITIONS OF 1898-1905, 1907, 1908, 1909, INCLUSIVE,
RECORDS NOT KEPT FOR YEARS 1896 AND 1897
NO EXHIBITION HELD IN 1906

	1898	1899	1900	1901	1902	1903	1904	1905	1907	1908	1909
Friday - - -	1393	1796	1545	1722	2559	3822	1659	720	11000	873	1116
Saturday - - -	1836	3250	1461	2593	4588	4092	2347	2223	6000	1462	1736
Sunday - - -	1213	11413	10569	10949	13731	11908	7437	5541	21000	4163	12000
Monday - - -	697	2204	1590	1588	2400	1953	971	844	4000	776	1451
Tuesday - - -	2011	2510	1561	1019	1627	2786	1712	1139	3000	664	1722
Wednesday - -	4034	2466	695	1340	1829	1837	1037	734	3200	737	2500
Thursday - - -	6880	3246	526	1204	2109	1841	1153	744	2200	479	3426
Total, first week	18064	26885	17947	20415	28843	28239	16316	11945	50400	9154	23951
Friday - - -	1723	2382	769	1357	1560	1656	1542	817	2000	843	9524
Saturday - - -	2333	2564	2188	2179	3213	2406	2978	1998	4500	4068	8623
Sunday - - -	2246	13041	5383	5719	9576	8683	6350	7056	24439	636	6542
Monday - - -	2016	2077	1392	910	933	645	812	716	1500	823	1578
Tuesday - - -	2481	1803	989	1337	1144	768	1540	816	500	894	2795
Wednesday - -	3128	1704	1042	1061	1179	994	1105	619	1200	615	2965
Thursday - - -	8890	2198	671	1452	2314	995	1197	525	750	536	2375
Total, second week	22817	25769	12434	14015	19919	16147	15524	12547	34889	9415	34402
Grand total, first two weeks -	40881*	52654*	30381*	34430*	48762**	44386	31840	24492	85289	18569	58353
Friday - - -	.....	.....	.....	.....	1889	953	1211	919	1200	776	3485
Saturday - - -	.....	.....	.....	.....	2131	2158	1607	1625	2500	995	1850
Sunday - - -	.....	.....	.....	.....	9649	4859	7248	7253	25500	3245	5047
Monday - - -	.....	.....	.....	.....	1050	657	866	725	1000	681	985
Tuesday - - -	.....	.....	.....	.....	1156	716	1167	633	1800	604	1150
Wednesday - -	.....	.....	.....	.....	787	634	978	643	2000	510	1125
Thursday - - -	.....	.....	.....	.....	3917†	5354†	2113†	649†	1200	583	750
Total, third week	.....	.....	.....	.....	21179	15331	15190	12447	35200	7394	14392
Grand total, three weeks -	.....	.....	.....	.....	69941	59717	47030	36939	120489	25963	72745

* Records kept for first two weeks only.

** Loan Exhibition.

† Thanksgiving Day.

TABLE I—CONTINUED

	1898	1899	1900	1901	1902	1903	1904	1905	1907	1908	1909
Friday - - -	1937	795	1112	468	1800	487	1185
Saturday - - -	2782	1136	1525	1064	4000	627	875
Sunday - - -	8845	2910	3143	3538	24000	1823	4588
Monday - - -	2263	416	976	428	1800	432	445
Tuesday - - -	1519	327	864	415	2600	409	448
Wednesday - - -	1316	526	847	382	1600	394	379
Thursday - - -	1477	415	818	1089	2300	335	418
Total, fourth week	20139	6525	9285	7384	38100	4507	8338
Grand total, four weeks - -	90080	66242	56315	44323	158589	30470	81083
Friday - - -	1180	559	671	505	1000	323	441
Saturday - - -	1727	833	1128	550	4500	* 496	496
Sunday - - -	6429	2828	3168	1011	26000	1885	2675
Monday - - -	1164	667	346	330	2300	485*
Tuesday - - -	1121	546	567	350	2500	548	502
Wednesday - - -	896	397	486	279	2700	343	407
Thursday - - -	907	329	589	382	3800	483	412
Total, fifth week	13424	6159	6955	3407	42800	4067	4933
Grand total, five weeks	103504	72401	63270	47730	201389	34537	86016
Friday - - -	1215	643	565	455	1800	423	350
Saturday - - -	1481	604	709	543	2400	468	492
Sunday - - -	7305	2562	1374	1420	16000	985	2472
Monday - - -	696	370	184	266	1100	343	260
Tuesday - - -	650	332	319	414	2600	316	375
Wednesday - - -	712	274	340	316	1700	360	460
Thursday - - -	817	462	376	293	1000	321	395
Total, sixth week	12876	5247	3867	3707	26600	3216	4807
Grand total, six weeks	116380	77648	67137	51437	227989	37753	90823

* Decoration Day.

TABLE 1—CONTINUED

	1898	1899	1900	1901	1902	1903	1904	1905	1907	1908	1909
Friday - - - - -					1108	558	389	220	2200	364	430
Saturday - - - - -					758	731	724	305	7500	368	350
Sunday - - - - -					2201	861	1744	1710	19000	573	1840
Monday - - - - -					546	412	426	146	1250	466	320
Tuesday - - - - -					580	397	283	125	2500	408	460
Wednesday - - - - -					372	393	198	94	4200	448	557
Thursday - - - - -					*	97	304	81	***	548	532
Total, seventh week -					5595	3449	4068	2681	36650	3175	4489
Grand total, seven w'ks					121945	81097	71205	54118	264639	40928	95312
Friday - - - - -					1223	*	179	155	1200	251	515
Saturday - - - - -					1497	1038	209	135	4400	518	480
Sunday - - - - -					4500	1568	415	1039	15000	978	2150
Monday - - - - -					1073	817	*	*	2300	314	417
Tuesday - - - - -					2044	973	783	442	3000	329	420
Wednesday - - - - -					1506	794	662	691	1100	311	320
Thursday - - - - -					4384	985	989	648	4500	450	360
Total, eighth week -					16227	6175	3237	3110	31500	3151	4662
Grand total, eight weeks					138172	87272	74442	57228	296139	44079	99974
Friday - - - - -						5056	1368	472	3500	416	345
Saturday - - - - -							1943	779	8000	726	412
Sunday - - - - -							5565	2735	13959	1421	271
Monday - - - - -								1117	5000	918	117
Tuesday - - - - -									5000	625	475
Wednesday - - - - -									7000		
Thursday - - - - -									4000		
Total, ninth week -									46459	4106	1620
Grand total, nine weeks									342598	48185	101594
Friday - - - - -									10000		
Saturday - - - - -									9000		
Total, tenth week -									19000		
Grand total, ten weeks									351598		

* Christmas. Exhibition Closed.

*** Decoration Day. Exhibition closed.

TABLE 2

RECORDS OF CATALOGUE SALES OF ANNUAL EXHIBITIONS, 1896-1905, 1907, 1908, 1909.
NO EXHIBITION HELD IN 1906.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1907	1908	1909
Founder's Day -	31	38	160	440	300	100	196	181	209	182	247	188	270
Friday -	404	411	327	387	253	313	282	211	224	116	441	165	195
Saturday -	288	295	336	487	256	421	495	348	332	320	484	221	295
Sunday -	419	426	399	97	530	796	598	434	330	226	610	274	194*
Monday -	473	480	214	203	242	273	151	161	112	91	255	119	*
Tuesday -	105	106	310	292	189	196	216	186	193	131	180	73	226
Wednesday -	118	119	110	254	89	210	236	107	82	97	182	102	238
Total, first week -	1838	1875	1856	2160	1860	2309	2174	1628	1482	1163	2399	1142	1418
Thursday -	33	40	92	296	85	212	265	130	85	97	202	49	253
Friday -	108	115	217	236	90	175	291	79	100	102	153	82	254
Saturday -	223	230	399	230	421	295	257	139	282	227	349	139	309
Sunday -	104	171	376	332	149	465	386	299	216	219	600	198	252
Monday -	80	7	130	88	134	100	122	56	63	57	157	156	121
Tuesday -	66	67	240	119	106	173	117	50	144	64	84	91	187
Wednesday -	115	116	170	133	94	132	150	64	101	55	165	51	128
Total, second week	789	826	1624	1434	1079	1552	1588	817	991	821	1710	766	1504
Total -	2627	1701	3480	3594	2939	3861	3762	2445	2473	1984	4109	1908	2922
Thursday -	126	133	199	170	84	191	172	88	101	73	142	49	132
Friday -	105	112	160	172	111	167	157	63	87	78	108	73	93
Saturday -	194	201	170	205	151	109	132	114	125	132	264	72	126
Sunday -	293	300	364	358	326	231	322	226	209	184	435	112	179
Monday -	54	61	120	104	113	86	64	48	59	56	100	51	86
Tuesday -	69	70	57	143	96	68	68	48	57	43	112	55	81
Wednesday -	54	55	65	85	56	84	44	26	43	58	109	29	69
Total, third week -	895	932	1135	1237	937	936	959	613	681	624	1270	441	766
Total -	3522	3633	4615	4831	3876	4797	4721	3058	3154	2608	5379	2349	3688

* Supply exhausted

TABLE 2—CONTINUED

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1907	1908	1909
Thursday - - - - -	153*	160	174*	83	97	267*	200*	202*	145*	52	141	55	68
Friday - - - - -	73	80	129	105	71	88	145	61	86	35	147	25	76
Saturday - - - - -	114	121	115	139	76	154	157	83	120	89	184	59	91
Sunday - - - - -	192	199	173	262	89	271	171	124	123	102	452	60	150
Monday - - - - -	39	46	58	58	33	62	86	30	53	18	65	38	46
Tuesday - - - - -	73	74	48	44	62	66	46	27	57	30	80	29	50
Wednesday - - - - -	53	54	53	53	33	52	55	38	40	22	91	20	47
Total, fourth week -	697	734	750	744	461	960	860	565	624	348	1160	286	528
Total - - - - -	4219	4367	5365	5575	4337	5757	5581	3623	3778	2956	6539	2635	4216
Thursday - - - - -	43	50	61	176*	164*	66	85	35	45	109	106	21	38
Friday - - - - -	31	38	41	92	78	66	65	33	38	45	88	17	47
Saturday - - - - -	32	39	97	96	91	101	131	70	30	31	179	†	53
Sunday - - - - -	68	75	79	84	173	251	151	129	129	61	330	59	84
Monday - - - - -	25	32	23	**	37	40	45	54	22	27	132	31	†
Tuesday - - - - -	29	30	42	**	22	38	49	21	36	28	79	26	40
Wednesday - - - - -	49	50	8**	**	15	73	48	15	22	30	52	25	22
Total, fifth week -	277	314	351	448	580	635	574	357	328	331	966	179	284
Total - - - - -	4496	4681	5716	6023	4917	6392	6155	3980	4106	3287	7505	2814	4500
Thursday - - - - -	35	42	**	22	33	46	47	16	31	16	108	29	28
Friday - - - - -	35	42	24	51	35	75	46	20	41	30	85	27	29
Saturday - - - - -	36	43	71	72	58	34	83	49	39	46	97	31	53
Sunday - - - - -	123	130	138	124	102	147	182	85	86	97	302	33	70
Monday - - - - -	22	29	31	29	36	26	30	14	15	18	80	25	24
Tuesday - - - - -	12	13	46	42	21	31	31	17	23	39	74	17	36
Wednesday - - - - -	24	25	37	31	24	24	52	14	22	11	68	20	48
Total, sixth week -	287	324	347	371	309	383	471	215	257	257	814	182	288
Total - - - - -	4783	5005	6063	6394	5226	6775	6626	4195	4363	3544	8319	2996	4788

* Thanksgiving Day.

** Supply exhausted.

† Decoration Day.

TABLE 2—CONTINUED

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1907	1908	1909
Thursday -	22	29	25	27	27	33	83	13	27	23	78	11	36
Friday -	6	13	36	25	16	25	68	14	18	14	64	19	47
Saturday -	17	24	34	61	22	40	94	24	28	36	107	29	41
Sunday -	76	83	87	110	62	114	103	30	108	71	192	16	59
Monday -	1	8	21	34	8	26	37	23	15	8	67	30	30
Tuesday -	19	20	15	17	21	16	42	12	10	16	64	22	24
Wednesday -	8	9	19	22	24	*	15	13	16	10	66	18	42
Total, seventh week -	149	186	237	296	180	254	442	129	222	178	638	145	279
Total -	4932	5191	6300	6690	5406	7029	7068	4324	4585	3722	8957	3141	5067
Thursday -	7	7	28	26	19	108	*	9	20	9	.....	31	27
Friday -	*	11	16	15	12	88	109	*	11	19	87	12	45
Saturday -	4	*	20	19	28	107	124	48	7	9	61	12	29
Sunday -	97	118	*	30	57	**	121	47	17	40	252	35	56
Monday -	59	66	51	*	17	**	18**	52	*	*	78	23	30
Tuesday -	75	76	56	66	*	**	134	42	56	52	70	14	29
Wednesday -	56	57	75	70	52	**	127	60	58	68	75	13	21
Total, eighth week -	298	335	246	226	185	303	633	258	169	197	623	140	237
Total -	5230	5526	6546	6916	5591	7332	7701	4582	4754	3919	9580	3281	5304
Thursday -	87	97	88	128	98	.....	68**	60	89	63	109	32	22
Friday -	217	19	26	93	61	.....	.....	109	112	66	80	38	28
Saturday -	.....	73	**	88	26	.....	.....	.....	118	86	168	42	38
Sunday -	.....	156***	**	114	107	.....	.....	.....	110	99	290	40	57
Monday -	.....	.....	.....	117	59	.....	.....	.....	.....	111	101	67	117
Tuesday -	.....	.....	.....	.....	94	.....	.....	.....	.....	.....	137	63	45
Wednesday -	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	147	.....	60
Total, ninth week -	304	345	114	540	545	.....	68	169	429	425	1032	282	209
Total -	5534	5871	6660	7456	6136	7332	7769	4751	5183	4344	10612	3563	5513
Thursday -	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	172	.....	.....
Friday -	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	247	.....	.....
Saturday -	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	263	.....	.....
Sunday -	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	141	.....	.....
Total, tenth week -	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	823	.....	.....
Grand total -	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11435	.....	.....

† Car strike. * Christmas. ** Supply exhausted. *** Exhibition open through Sunday, January 2.

COMPARATIVE TABLE OF PAINTINGS ENTERED, RECEIVED, AND CATALOGUED
ANNUAL EXHIBITIONS, 1896-1905, 7, 8, 9.

AN EXHIBITION WAS NOT HELD IN 1906

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1907	1908	1909
Paintings entered.....	495	387	357	411	458	670	155*	493†	830	1389	930	753	721
" received	385	380	349	389	458	604	155	580	763	1252	813	674	656
" catalogued..	312	243	244	258	271	246	155	289	324	287	515	344	296

* Loan Exhibition.

† American section only, competitive: foreign section consisting of 137 paintings in oil, water colors, drawings, and etchings contributed by the International Society of Sculptors, Painters and Gravers of London, non-competing, made the total, received 580.

CALENDAR OF EXHIBITIONS FOR FISCAL YEAR, APRIL 1, 1909 TO MARCH 31, 1910

DATE		EXHIBITIONS	GALLERIES	AUSPICES
1909	April 29-31	Thirteenth Annual Exhibition	I, J, K, L, M, N, O	Fine Arts Committee
"	April 29-31	Saint Gaudens Memorial	Sculptural Hall	"
"	May 1-31	Thirteenth Annual Exhibition	I, J, K, L, M, N, O	"
"	May 1-31	Saint Gaudens Memorial	Sculptural Hall	"
"	May 5-22	Exhibition of pupils' work in construction	E, F	Eastern Art Teachers Association
"	June 1-30	Thirteenth Annual Exhibition	I, J, K, L, M, N, O	Fine Arts Committee
"	June 1-30	Saint Gaudens Memorial	Sculptural Hall	"
"	August 2-31	Summer Loan Exhibition	E, F	"
"	September 1-30	Summer Loan Exhibition	E, F	"
"	October 1-31	Summer Loan Exhibition	E, F	"
"	November 22-27	Seventeenth Annual Exhibition Duquesne Ceramic Club	I	Duquesne Ceramic Club
1910	January 1-15	American Photo Salon	J, K	Pen, Pencil and Camera Club
"	January 8-28	Small Bronzes and Pennell Etchings	I, L	Art Society of Pittsburgh
"	February 8-27	Drawings entered in competition for First Baptist Church of Pittsburgh	L	Pittsburgh Architectural Club
"	February 21-28	Exhibition of Water Colors	F	Art Society of Pittsburgh
"	March 1-6	Exhibition of Water Colors.	F	"
"	March 1-17	Architectural Drawings	N, O	Pittsburgh Architectural Club

**FINANCIAL STATEMENT OF THE DEPARTMENT OF
FINE ARTS, CARNEGIE INSTITUTE FOR YEAR ENDING
MARCH 31, 1910.**

Receipts.

Balance: In treasury April 1, 1909	\$17,471.39	
In Mellon National Bank,		
John W. Beatty, Director.	1,000.00	
		\$18,471.39
Annual appropriation, April 21, 1909		60,000.00
Refunds:		
Sale of Thirteenth Annual Exhibition Catalogues . .		1,395.75
" " Saint-Gaudens Exhibition Catalogues . . .		359.00
" " Summer Loan Exhibition Catalogues		33.90
		<u>\$80,260.04</u>

Disbursements.

Departmental Expense:		
Administration	\$21,145.47	
Permanent Collection of Paintings	278.18	
Photos, Prints and Engravings	104.74	
Architecture and Statuary	2,588.09	
Bronzes	204.64	
		<u>24,321.12</u>
Thirteenth Annual Exhibition:		
Exhibition proper	\$ 9,894.88	
Prizes	3,000.00	
Expense of assembling jury of award	1,453.63	
Fourteenth Annual Exhibition:		
Exhibition proper	2,377.14	
Expense of assembling jury of award	705.70	
		<u>17,431.35</u>
Special Exhibitions:		
Saint-Gaudens Exhibition	\$ 2,551.57	
Summer Loan Exhibition	242.90	
Loan Exhibition, April-May, 1910	100.63	
		<u>2,895.10</u>
Acquisitions:		
Oil paintings for permanent collection	\$13,605.65	
Furniture and fixtures	872.79	
Books for library	113.27	
		<u>14,591.71</u>
Appropriation to insurance reserve fund		1,408.85
Balance: In treasury March 31, 1910		18,611.91
In Mellon National Bank,		
John W. Beatty, Director, Account . .		1,000.00
		<u>\$80,260.04</u>

**STATEMENT OF THE CONDITION OF THE INSURANCE
RESERVE FUND, MARCH 31, 1910.**

Dr.

1909				
April	1	To balance:		
		Cash	\$16,052.74	
		Pittsburgh Coal Company 5% bonds . . .	20,000.00	
				<u>\$36,052.74</u>
1910				
Jan.	3	Interest on Pittsburgh Coal Company		
		bonds		1,000.00
Jan.	10	Interest on daily bank balances		475.28
March	31	Appropriation		1,408.85
				<u>\$38,936.87</u>

Cr.

1909				
Oct.	11	By claims		7.00
Dec.	15	By claims		26.35
1910				
March	31	By balance:		
		Pittsburgh Coal Company bonds	\$20,000.00	
		Cash	18,903.52	
				<u>38,903.52</u>
				<u>\$38,936.87</u>

THE CARNEGIE INSTITUTE PITTSBURGH

Thirteenth Annual Report of the
Director of the Museum, for the
Year Ending March 31st, 1910.

MUSEUM COMMITTEE

1909-1910

GEORGE H. CLAPP, *Chairman*

A. J. BARR

W. N. FREW

S. H. CHURCH

DR. F. H. COLHOVER

HOWARD HEINZ

JOHN D. SHAFER

JAMES R. MACFARLANE

LETTER OF TRANSMITTAL

MR. GEORGE H. CLAPP,

Chairman of the Committee on the Museum.

MY DEAR SIR:—In accordance with the requirements of the By-laws, I desire herewith through you to transmit to the Trustees of the Institute my Annual Report upon the work and condition of the Museum. On behalf of the Staff of the Museum I wish to express to you and to your associates our sincere appreciation of the fidelity which has been shown by the Committee to the interests of this Department, and to thank you for your wise counsel and unfailing kindness during the past year. I am,

Yours very sincerely,

W. J. HOLLAND, *Director.*

**ANNUAL REPORT UPON THE CONDITION AND
PROGRESS OF THE CARNEGIE MUSEUM
IN PITTSBURGH**

Submitted March 31, 1910.

By W. J. HOLLAND, *Director*.

TO THE TRUSTEES OF THE CARNEGIE INSTITUTE OF PITTSBURGH :

GENTLEMEN :—I have the honor herewith of submitting to you my Thirteenth Annual Report as Director of the Museum. Appended to the general account of the work done in the various sections of the Museum are financial statements, showing the expenditures made from the general fund and from certain special funds which are in the custody of the Director.

My last Annual Report had hardly passed through the press when, on the second of April, 1909, we were called upon to mourn the death of Mr. Charles Chauncey Mellor, who from the beginning had been the Chairman of the Committee upon the Museum. I cannot refrain at the outset of my report from referring to the distinguished services which he rendered and from expressing our sincere appreciation of all those many qualities which fitted him in a peculiar manner for the duties which he was called upon to discharge. His successor, Mr. George H. Clapp, who, like Mr. Mellor, is possessed of scientific tastes and training, has since his election with the utmost fidelity discharged the duties of his po-

sition, and together with his associates on the Committee has labored most faithfully for the welfare of the Museum.

At the beginning of my last Annual Report I stated that it had been decided as a definite matter of policy for the time being to dispense with the services of certain persons who ultimately must be employed to take charge of certain portions of our collections, and to restrict the acquisition of new material so far as possible, thus effecting economies in administration which will enable us to secure the money which is necessary in order to build the furniture required in our various laboratories and in certain of the halls of exposition. While it is necessarily a matter of regret not to be able to avail ourselves of opportunities which from time to time occur for the acquisition of desirable collections, and while it is a still greater cause of regret to be compelled to hold important work in abeyance, nevertheless it is of fundamental importance to complete the furnishing of these portions of the building so that systematic work may proceed properly in the future. I am happy to be able to report that the cabinets needed in the Section of Entomology have been practically completed during the year that has elapsed since my last report. The steel gallery carrying the upper tier of cabinets was built for us by the Chester B. Albree Iron Works Company at a cost of \$2,567.25. The cabinets themselves have been built in our shops during the past year at a cost for material of \$2,870.16, and mechanics' wages of \$3,694.50. The total cost up to date for this piece of construction is \$9,132.91. In view of the fact that the lowest estimate for the construction of this work which your Director was able to obtain from reputable bidders would have made the cost about \$18,500, it is evident that a very great saving has been effected. The making of the plans and the supervision of the entire work has been in the hands of the Director himself. Architects fees, all forms of profit, and many other things, which enter into the cost of construction by outside parties, have been eliminated, and a piece of work which your Director is satisfied is most creditable in appearance and execution has been accomplished at a minimum figure. Your Director has resolved to furnish the Laboratory of Invertebrate Zoology, which is under the care of Dr. Ortmann, in the same style and manner, has prepared the drawing for this purpose, and given an order to

the Chester B. Albree Iron Works Company for the necessary steel construction. The erection of this series of cabinets will be carried forward during the coming year. When these two undertakings are completed it will be possible for us to systematically arrange the magnificent collections which we possess in these sections. There will be room for the arrangement according to genera and species of the more than a million and half of insects which we possess, and the several hundreds of thousands of shells representing many thousands of species, which are now contained in boxes piled upon our floors and only accessible by the most laborious effort. The conditions which have existed in these departments of our activity since we began our work have been most disadvantageous and uncomfortable, but before two years have elapsed your Director is of the opinion that everything will have been brought into perfect order.

A number of cases for the exhibition rooms have also been provided the past year. The large room on the north side of the court has been thrown open to the public. This necessitated the building of a number of cases, some of which were made in our own shops and others which it was found necessary, owing to the limited number of men in our employment, to order from outside builders. While with a larger force we could no doubt have constructed these cases at a less expense, it did not seem advisable to attempt it at the present time. From the Library Bureau we purchased six cases for the installation of ivories and kindred collections, and from Messrs. Kates & Company we purchased six large wall cases. To those who are not familiar with the internal requirements of a great museum it may seem astonishing that so large a proportion of the funds of the institution must be spent for exhibition cases. They are, however, absolutely indispensable. Cabinets in which to contain collections are as necessary as the frames which surround pictures, and cabinets built so as to exclude dust and museum-pests and at the same time possessing graceful proportions and producing a pleasing effect are expensive.

The reputation of the Museum as a center of scientific research has steadily grown, and in the past year as in former years we have been able to enter into relations of correspondence and exchange with a number of important museums and scientific so-

cieties in other countries, many of which have of their own initiative asked for the establishment of such relations with us.

The attendance in the Museum has increased during the past year. While we regret that no absolutely exact manner of ascertaining the number of those who have visited the building is at our command, it is the general impression that the number of visitors has been greater than in any previous year. A very conservative estimate gives the number of visitors during the year as about half a million. As in previous years we have been honored by the presence of a great many distinguished men from our own country and from abroad, many of whom have come especially to Pittsburgh in order to examine the collections contained in the Museum.

THE STAFF.

On the first of last April, Dr. Victor Sterki received an appointment as Assistant in the Section of Recent Invertebrates, and has devoted himself especially to the arrangement and classification of certain families of the Mollusca. On May 1, 1909, Dr. C. H. Eigenmann, Dean of the Graduate School of Indiana University, was appointed Curator of Ichthyology, with the understanding that he would devote so much of his time as may be necessary in order to classify and arrange our now extensive collection of fishes and to prepare for publication descriptions of the new material which we have acquired. The arrangement made with him is that he will devote so much of his time during University vacations as may be necessary to the work in the Museum in Pittsburgh, and that he will at other times carry forward the work of scientific research and description, the collections or parts of collections which require his attention being shipped to him to Bloomington, Indiana, and then subsequently returned to us. Dr. Eigenmann is one of the most competent ichthyologists in the world, and we regard ourselves as fortunate in having made an arrangement which is mutually satisfactory, by which we can avail ourselves of the services of so eminent a specialist. No other additions have been made to the scientific staff of the Museum during the year that is past. Mr. John D. Haseman, who for two and a half years has been collecting for the Museum in Brazil, has returned and is at present employed in the arrangement of the col-

lections which he has made. Mr. M. A. Carriker, Jr., after completing the manuscript account of the birds of Costa Rica which he for five years was engaged in collecting for us, has gone to Venezuela and northwestern South America, and is sending us large collections of the birds of this portion of the world from which we, up to the present time, have had but few representatives.

Those who have been in the employment of the Museum or who have voluntarily rendered service during the past year for the whole or a portion of the time are given in the following list:

Dr. W. J. Holland, Director, Curator of Paleontology and Entomology.

Rev. A. A. Lambing, Honorary Curator of Historical Collection.

George H. Clapp, Honorary Curator of Conchology.

Dr. A. E. Ortmann, Curator of Invertebrate Zoölogy.

Dr. C. H. Eigenmann, Curator of Ichthyology.

Dr. Percy E. Raymond, Assistant Curator in Charge of Invertebrate Paleontology.

Mr. Douglas Stewart, Assistant in the Office of the Director, Custodian of the Mineralogical Collection, and Accession Officer.

M1. Otto E. Jennings, Assistant Curator of Botany.

Mr. W. C. Todd, Assistant Curator, in Charge of the Collection of Recent Vertebrates.

Dr. D. A. Atkinson, Custodian of the Collections of Reptiles. (Volunteer.)

Mr. Hugo Kahl, Custodian in the Section of Entomology.

Dr. Victor Sterki, Assistant in Section of Invertebrate Zoölogy.

Mr. R. H. Santens, Preparator in the Section of Zoölogy.

Mr. Joseph A. Santens, Preparator in the Section of Zoölogy.

Mr. Arthur S. Coggeshall, Chief Preparator in the Section of Paleontology.

Mr. Earl Douglass, Assistant in Research, Field, and Laboratory in the Section of Paleontology.

Mr. Sidney Prentice, Draughtsman.

Mr. O. A. Peterson, Field Collector and Preparator of Mammals and Birds in the Section of Paleontology.

M1. Theodore A. Mills, Modeler and Sculptor in the Section of Ethnology.

Mr. Louis S. Coggeshall, Assistant Preparator in the Section of Paleontology.

Mr. W. H. Utterback, Field Collector and Assistant Preparator in the Section of Paleontology.

Mr. Gustav A. Link, Assistant Preparator in the Section of Zoölogy.

Prof. D. R. Sumstine, Assistant in the Section of Botany.

Mr. M. A. Carriker, Jr., Assistant and Field Collector in Section of Vertebrate Zoölogy, in Charge of Expedition to Venezuela.

Mr. J. D. Haseman, Field Collector in Section of Ichthyology, in Charge of Expedition to Brazil.

Mr. José Steinbach, Field Collector in Bolivia, South America.

Mr. Wilson Banks, Modeler and Foreman of Shops.

Mr. Henry G. Klages, Assistant in the Section of Entomology.

Mr. Louis H. Townsend, Assistant Osteologist in the Taxidermic Laboratory, Section of Zoölogy.

Mr. Serafino Agostini, Assistant in the Section of Paleontology.

Mr. D. C. Hughes, Assistant in the Section of Archeology and Ethnology.

Mrs. Otto E. Jennings, Assistant in the Section of Botany.

Miss M. J. Stribling, Stenographer.

Mrs. Elizabeth Courtney, Stenographer.

Miss M. J. Gittings, Stenographer and Custodian of Library.

Mr. H. W. Love, Cabinetmaker.

Mr. Louis Rosenberg, Finisher.

Miss Anna M. Dierdorf, Assistant in Taxidermic Laboratory.

Mr. George Fisher, Laborer.

Miss A. Banks, Assistant in Shops.

Mr. A. Gochincki, Cabinetmaker.

The salaries of the gentlemen employed in the Section of Paleontology have been paid from the fund for paleontological research which Mr. Carnegie has so generously provided during the past as in former years.

The Director takes this opportunity to express his sincere appreciation of the fidelity and competence of the various persons who have been associated during the past year in carrying out the work of the Museum.

VERTEBRATE ZOÖLOGY.

W J. HOLLAND, Director (in charge).

W. E. C. TODD, Assistant Curator.

REMI H. SANTENS, Preparator.

JOSEPH A. SANTENS, Preparator.

GUSTAV A. LINK, Assistant Preparator.

LOUIS H. TOWNSEND, Assistant in Osteology.

M. A. CARRIKER, JR., Field Collector.

ANNA M. DIERDORF, Assistant.

MAMMALS.

The number of mammals added to our collection during the past year has been inconsiderable. From the Zoölogical Garden in Pittsburgh we received a remarkably fine specimen of the mandrill (*Cynocephalus mormon*) and an Axis Deer; from Mr. Steinbach in Bolivia a number of small mammals, and from Mr. W. W. Worthington a collection of twenty-eight bats taken in the Bahaman Islands. The most important addition to our collection of mammals was made by Mr. R. H. Santens, who collected four specimens of the American Black Bear in McKean County, Pennsylvania, with a view to mounting a lifelike group of this bear representing the species in its Pennsylvanian habitats. A number of mammals were mounted during the past year. The Messrs. Santens completed early in the year the splendid male lion which they had in hand at the time of my last report as well as the tapir obtained in Costa Rica. They have remounted the large grizzly bear presented to the Museum by Mr. John M. Phillips, and they deserve all praise for the excellent manner in which they have done this work. The Rocky Mountain sheep presented by Mr. W. T. Hornaday to the Museum, which was taken by him at the time of his excursion to northern Mexico and which figures as the frontispiece of his book "Camp-fires on Desert and Lava," has been superbly mounted by the Messrs. Santens. The mandrill and many other smaller animals have been mounted. An enormous amount of work has been done in the laboratory in overhauling, cleaning, bleaching, and preparing mammalian skeletons which had necessarily been neglected in former years. Our osteological collections representing the mammalia are being gradually brought into excellent condition. While the mammalia in our possession

are not nearly as numerous as they should be, and the collection is really in its infancy, nevertheless through the skill of our taxidermists the specimens which have been mounted and placed on exhibition create a most favorable impression.

BIRDS.

During the past year twenty-one accessions have been received at the Museum, adding eighteen hundred and five specimens to the general collection, bringing the total up to thirty-two thousand five hundred and forty-one specimens. An important accession was a lot composed of four hundred and twenty-one skins taken in the Bahama Islands and purchased from Mr. W. W. Worthington. Added to those listed last year our collection of the land-birds of the Bahama Islands is very considerable and important in view of the fact that Mr. Worthington succeeded in securing a good series of the rarer and more interesting Bahaman birds, including one species new to science, which has been described by Mr. W. E. C. Todd. The water-birds of the Bahaman Islands are not, however, as fully represented as we would like them to be. From Mr. José Steinbach we received two hundred and thirty-six skins of birds collected in Argentina and Bolivia, and further collections, we are informed, are on their way to us. From Mr. M. A. Carriker, Jr., we have received one thousand and seven specimens of birds collected in the Orinoco Valley in Venezuela. The collections sent in by Mr. Carriker have added many new species which were hitherto lacking in our collection. Mr. W. E. C. Todd at the beginning of the spring and fall migrations collected about one hundred specimens of birds from Western Pennsylvania, including a number of rarities. A number of local species were mounted and placed on exhibition during the year. Messrs. Joseph H. Santens and G. A. Link were successful in the spring of the year in securing nests, eggs, and accessories of the following species: Sharp-shinned Hawk (*Accipiter velox*), Green Heron (*Butorides virescens*), Rough-winged Swallow (*Stelgidopteryx serripennis*), Phoebe (*Sayornis phæbe*), Scarlet Tanager (*Piranga erythromelas*), Indigo Bunting (*Passerina cyanea*), Blue Bird (*Sialia sialis*), Black-capped Chickadee (*Penthestes atricapillus*). Beauti-

ful groups representing a number of these birds are in course of preparation and we hope to have some of them on exhibition next Founder's Day.

An immense amount of routine work has been accomplished during the year. The task of determining the non-passerine neotropical birds was completed last August, and during the following month of September an arrangement of the entire series of new world birds was finally accomplished. The birds are now arranged in proper sequence and each case and tray is labeled, showing its respective contents. We possess about eighteen hundred species, including subspecies, of American birds from North and Middle America, besides several hundreds of species from South America.

Mr. Todd has been engaged at leisure moments in preparing a report upon the birds from the Bahamas and British Honduras contained in our collection, and was able to consult in this work the Museums in New York and Cambridge.

An important paper from the pen of Mr. M. A. Carriker, Jr., upon the birds of Costa Rica was finally completed by Mr. Carriker, and is at the present moment passing through the press.

REPTILES, BATRACHIANS, ETC.

Dr. D. A. Atkinson during the past year continued with great kindness to devote so much of his leisure as he could spare to the care of the reptilia and batrachia in our possession. Your Director has devoted considerable time to the arrangement and formal cataloging of the various collections of reptilia obtained in Middle America. Mr. Haseman, while devoting most of his time to the collection of fishes, according to his instructions, was successful in obtaining for the Museum very considerable collections of the reptilia and batrachia of the lands which he visited. These have been separated from the fishes and are gradually being brought into order with a view to their formal classification. While our collections of the reptilia and batrachia are not by any means representative, nevertheless a very good beginning has been made.

The Gallery of Reptiles was partially arranged and was thrown open to public inspection at last Founder's Day. The

mounted group of rattlesnakes, which is in the center of the room, has attracted a great deal of attention. During the past year Mr. R. H. Santens and Mr. Link have mounted a number of reptiles. Mr. Link has set up sixteen turtles, an iguana, and a monitor. Groups representing the mountain rattlesnake and the copperhead of Pennsylvania are nearing completion, and a number of other snakes have been mounted in lifelike attitudes and have been carefully colored. The Gallery of Reptiles, when our plans are completed, will prove to be a hall replete with interest to the general public.

FISHES.

DR. C. H. EIGENMANN, Curator of Ichthyology.
JOHN D. HASEMAN, Assistant.

The collections of fishes at present in the possession of the Carnegie Museum are composed of a large number of accessions, many of them representing fishes taken in the upper valley of the Ohio at different times since the Museum was organized, or else taken incidentally in the western rivers by members of the various parties sent out for the purpose of making paleontological investigations. Many of these collections have as yet not been thoroughly arranged. In addition to these collections we have, as stated in former reports, important collections from the Bahamas, the Hawaiian Islands, from Porto Rico, Cuba, and Paraguay, obtained from various sources, a large collection of the fishes of Formosa, purchased from Dr. Sautter, which have been studied by President D. Starr Jordan of Leland Stanford University and upon which during the last year we published in the *Memoirs* a full report with illustrations of the types of the new species. Through Dr. Jordan during the past year we have also secured a number of fishes from Siberia, upon which he has written and submitted a report which will shortly be published. During the past year we have received as a gift from Mrs. C. H. Eigenmann a collection of fishes made by her in California. A collection of fishes from Guatemala has been donated by Mr. Newton Miller and Dr. C. H. Eigenmann. Dr. Eigenmann has also donated to us a fine collection of freshwater fishes from the State of Indiana. We have obtained by exchange with Mr. Ulrich Dahlgren four specimens of electric

fishes; from the Museum of the Jardin des Plantes a cotype of *Hemiodus*; and Mr. Thomas Barbour has kindly donated to us a cotype of *Pygidium barbouri*. Arrangements have been made with Mr. Edwin C. Starks of Stanford University to secure for us a collection of the fishes from the Straits of Juan de Fuca, upon which he is preparing a report in which will be included a description of several new species.

The extremely successful expedition of Dr. C. H. Eigenmann to British Guiana was brought to the attention of the Board in my last Annual Report. Since his return Professor Eigenmann has been engaged in classifying the collections made by him, and several important papers from his pen and from the pen of advanced students working under his direction have been published. Mr. Owen Frazee examined the marine catfishes from Guiana, Mr. Elmer Deem the *Doradinae* of Guiana, Miss Lola Vance the *Pimelodinae* of Guiana; Mr. Max Ellis the *Gymnotidae*, Mrs. Marion Durbin Ellis the genera *Hemigrammus* and *Hyphessobrycon* and the *Sciænidæ*. Dr. Eigenmann is preparing for publication a monograph of the Fishes of British Guiana. The manuscript is in a forward state and many of the illustrations which are to accompany the Memoir have already been drawn. All of the duplicates obtained by Dr. Eigenmann on his expedition to British Guiana have been secured by the Museum and arrangements are in process of consummation to effect exchanges of these with other institutions by which we hope to add very largely to the number of species of fishes contained in our collection. We have entered into correspondence with three or four of the leading museums of this country and of Europe and are encouraged to believe that they will be very glad to carry out exchanges for this valuable and important material.

I am happy to be able to report that after two and a half years' absence in the wilderness of South America, Mr. John D. Haseman, who was sent out to collect for us on the southern continent, has returned in safety.

During the last century five notable expeditions collected fishes in various parts of South America. In the early part of 1817 Spix and Martius and Natterer went to Brazil with the bridal party of Dom Pedro d' Alcantara, Crown-prince of Portu-

gal, and the Archduchess Karolina Josepha Leopoldina of Austria. Spix and Martius traveled in Brazil in the years 1817-1820 as representatives of the King of Bavaria. John Natterer, the representative of Austria, remained for eighteen years, going from Rio de Janeiro to Cuyaba, Matto Grosso, Manaos, and ascending the Rio Negro and the Rio Branco. Castelnau visited South America in 1843, followed the same general route as far as Matto Grosso, but continued westward to Titicaca and Lima. He returned by way of the Ucayale and Amazon. In 1865 the Thayer expedition, under the leadership of Louis Agassiz, accompanied by numerous assistants, went to Brazil and remained there for more than a year. The survivors of the party at the present day are Dr. J. A. Allen and Mr. William James. This expedition was divided into smaller parties, who explored various parts of southeastern Brazil, and the Amazons as far as Peru. Guiana and northern Brazil were explored in part by Richard and Robert Schomburgk.

Mr. Haseman covered more miles than any of the above explorers or expeditions to South America. He everywhere made extensive collections of fishes. Only one other collection of any importance has been made on the Guaporé, which he explored during the past year, and that was by the Austrian naturalist Natterer, who followed the same general course from Cuyaba to Manaos between 1825 and 1830, and whose collections are in the K. K. Museum in Vienna. No collections from this great river exist in any American Museum, except our own.

Mr. Haseman's trip between 1907-1910 is of special importance because he crossed many of the divides between watersheds for the purpose of comparing the faunæ on opposite sides.

Dr. Eigenmann, in an interesting report which he has submitted to the Director, calls attention to the fact that the Carnegie Museum, possessing the huge collections from South America which are already at hand, and having made arrangements for exchanges with other institutions, is in a position speedily to become the foremost depository of the fresh-water fishes of tropical American on this side of the Atlantic, and suggests the continuance of our investigations in certain streams and river basins from which we as yet have comparatively little material.

The Gallery of Fishes has not yet been thrown open to the

public. It has been simply impossible to do this because of the lack of funds with which to provide the necessary furniture. Dr. Eigenmann, in the report above alluded to, recommends the adoption of a general plan for the work of building up our exhibition collection of fishes. The plan which he has outlined is very thorough and complete, but in the brief space of the present report your Director refrains from laying it before the Board. It is more properly the subject of personal conference between the Curator and the Director.

SECTION OF INVERTEBRATE ZOÖLOGY.

DR. ARNOLD E. ORTMAN, Curator.
DR. VICTOR STERKI, Assistant.

The work done in the Section of Invertebrate Zoölogy may be divided into collecting, which is principally done in the summer season, and the working up of collections, their classification and cataloging, which is mainly accomplished in the winter.

During the summer of 1909 the Curator directed his chief attention to the collecting of the *Unionidæ*, with a view to completing and supplementing former work. Several extended collecting trips were made. Lake Erie was then visited. In August a trip was made to the headwaters of the Allegheny River and thence into the drainage of the North and West Branches of the Susquehanna; in September the Potomac drainage in southern Pennsylvania was studied. This latter excursion was preëminently successful, as had been a prolonged stay in April and May in the eastern section of the State, with Philadelphia as headquarters.

A number of smaller excursions were made in Western Pennsylvania, chiefly in the Beaver and Allegheny drainages. Here it was the object to secure the soft parts of the shells in various conditions, preparatory to a study of their anatomy.

The season of 1909 was very favorable. Although the Ohio below Pittsburgh did not reach the low stage of the previous season, the Allegheny was extremely low, and what was most important, it reached a low stage as early as the end of June. This afforded an opportunity to secure a number of species in a gravid condition, in which they had never before been found.

About the middle of October the summer work of collecting was suspended. As early as September winter work had been started, consisting in the cataloging of the material collected. This was finished by the beginning of November, and then the Curator applied himself to the study of the anatomy of the soft parts of the Unionidæ. This was continued uninterruptedly to the middle of February of the present year, when the chief work was regarded as finished. Toward the end of January the manuscript of the anatomical introduction to a memoir on our Unionidæ was begun.

The anatomical studies consisted in macroscopical and microscopical investigations of the structure of the soft parts. For the latter part about five hundred and fifty slides have been made from two hundred and forty individuals belonging to about fifty species.

The results obtained are very satisfactory; a number of interesting anatomical features have been discovered, which had been overlooked hitherto, and which are of prime value with regard to the systematic arrangement of the Unionidæ. Because of the great interest of these discoveries it was deemed advisable to publish a preliminary account of them, and in January the Curator with the sanction of the Director prepared a short synopsis for publication in the "Nautilus."

During the past year eight hundred and ninety-eight additions were made by the Curator to the card catalog, representing an increase among the Pelecypoda of five hundred entries, among the Gastropoda of three hundred and sixty-seven entries, and among the Crustacea of thirty-one entries. The chief accessions during the year consist of the collections made by the Curator; of a number of fresh-water shells from China, donated by Mr. William Millward of Peking; of fresh-water Crustacea from British Guiana, contributed by Dr. C. H. Eigenmann; of a number of shells from the Genesee River and from Lake Ontario, contributed by Mr. R. H. Santens; a collection of Unionidæ from Cedar Point, Lake Erie, donated by Professor Charles Brookhover of Akron, Ohio, and very considerable collections from Mr. John D. Haseman. Exchanges were made with Mr. A. A. Hinkley, of Dubois, Illinois, for Strepomatidæ.

Dr. Victor Sterki, at the suggestion of the Director, visited

the Museums at Cambridge, New York, Philadelphia, and Washington for the purpose of comparing the materials in his hands with types in older collections. He made collections in various points in Ohio, investigating streams tributary to Lake Erie and to the upper Ohio. The results secured were not always satisfactory, owing to the increasing pollution of the streams. During the past year he has worked up a great deal of material submitted for examination: (1) Numerous sendings by the Rev. H. W. Winkley from the vicinity of Danvers, Mass., containing thousands of good specimens, principally Sphæriidæ. (2) From N. W. Lermond of Warren, Maine, mostly living Sphæriidæ. (3) Two sendings by E. E. Hand from Manistee County, Michigan, Sphæriidæ. (4) The Sphæriidæ collected by the expedition of the Geological and Natural History Survey of Michigan in 1909 in Dickinson County, Michigan. (5) The Sphæriidæ submitted by F. C. Baker from Oneida County, Wisconsin. (6) Numerous sendings received from Dr. R. C. Rush from the vicinity of Hudson, Ohio. (7) Considerable material obtained in Northeastern Ohio by Mr. John A. Allen. The collection of F. A. Surface was received from the Ohio Agricultural Station at Wooster. It contains a few specimens which are of interest for morphological studies, but is mainly worthless and has been largely discarded. The special collection of Sphæriidæ contains now over six thousand four hundred entries; the special collection of North American Pupidæ seventeen hundred entries, and the general collection of Pupidæ eleven hundred entries. Dr. Sterki is busily engaged on his monograph of the North American Pupidæ, and the manuscript is in a forward state; the drawings, however, are not yet ready, and microscopic investigations must be made.

Only a few changes have been made in the exhibition collection and they consist in the withdrawing of poor specimens and the substitution of better ones in their places.

As already stated at the beginning of this report, the work of building the cabinets for this Section has been undertaken. It will require, with the limited force at the command of the Director, the better part of twelve months to finish the work, but when it is completed it will be possible to properly arrange and care for the rich collections which we have, in certain groups the best of their kind in the world.

ENTOMOLOGY.

W. J. HOLLAND, Curator.

HUGO KAHL, Custodian.

HENRY G. KLAGES, Assistant Preparator.

Eighty permanent accessions have been made to the entomological collections during the past year, being the largest number of accessions ever received in any one year.

Mr. Kahl, the Custodian, during the spring, summer, and fall made many excursions into the region about Pittsburgh, going as far as the Allegheny Mountains on the east, and to Beaver County on the west. While neglecting no order of insects, he paid especial attention to the Diptera, and especially to the family Tipulidæ, and has been able to identify no less than eighty species from Western Pennsylvania. (Professor Aldrich in his "Catalogue of North American Diptera," issued in 1904, records only twenty species from the State of Pennsylvania.) As the Tipulidæ or Crane-flies are very difficult to collect and preserve, the Custodian either mounted his specimens directly in the field, or brought the smaller species alive to the laboratory. The work was tedious and demanded the most painstaking care, but we have the satisfaction of knowing that we possess at the present time the most complete collection of these delicate diptera which has ever been made in the State of Pennsylvania. In addition to the eighty species already satisfactorily determined by the Custodian there remain about twenty species upon which he is unable to express a positive opinion without consulting the types of Professor Loew and Baron von Ostensacken, which are preserved at Harvard University, and the types in the United States National Museum. Mr. Kahl has also been engaged in identifying, card-cataloging, and arranging all the other diptera in our possession taken in Western Pennsylvania, the object being to ultimately prepare a catalog of the species known to exist in this part of the world. There are many hundreds of species. Mr. Kahl, who is recognized as one of the ablest students of the Diptera in America, is peculiarly qualified for this very difficult and tedious undertaking. Mr. Klages has devoted most of his time to the work of mounting and arranging collections in the laboratory. The Director is happy to be able to report that at

last our great collection of South American Coleoptera, numbering about two hundred and fifty thousand specimens, obtained in Brazil and the valley of the Rio de la Plata, by Mr. H. H. Smith, has been mounted, with locality labels and dates attached to all the specimens so far as the data furnished by Mr. Smith enabled us to do so. The beetles have been classified according to families and are now in a condition to be systematically studied.

The principal accessions to the entomological collections made during the past year are the following: Five thousand Coleoptera and seventy-five Odonata from Guadalajara, Mexico, taken by Messrs. R. A. McConnell and D. L. Crawford; large collections made by Mr. J. D. Haseman in Brazil, Paraguay, Uruguay, and Bolivia, the specimens accompanied by accurate data; a collection of Lepidoptera from the islands of Trinidad and Grenada, and a second collection from the valley of the Orinoco made by Mr. M. A. Carriker, Jr.; a large and beautifully preserved collection of Heterocera from Bolivia, made by Mr. José Steinbach; a well-preserved collection of inflated larvæ of Lepidoptera from Allegheny County prepared by Mr. Robert Dickson; a very large and important collection of the Heterocera of Western Pennsylvania by Mr. Henry Engel. From Professor T. D. A. Cockerell we have received as a gift part of a type lot of the galls of *Rhopalomyia betheliana*. Mr. G. R. Pilate kindly donated fifty-one named and well-preserved Coleoptera from Southern California. Special thanks are due to Dr. A. E. Ortman for his untiring and enthusiastic effort in collecting a large quantity of material representing the *Hydrachnidæ* taken from the gills of many species of Unionidæ which he has been engaged in studying. Before this time there was no representation whatever in the Museum of these interesting aquatic parasites. From Mr. W. W. Worthington we secured all the insects which he collected while on his ornithological excursion to the Bahamas. While the number of species is not very large the Odonata are particularly well represented, and fine series of the Odonata occurring upon the various islands of the group are available for our cabinets and for purposes of exchange.

During the year assistance has been rendered to a great many scientists and students who have been aided in consulting the

collections in our possession. The Director placed at the disposal of Sir George Hampson of the British Museum the types of a large number of African Noctuidæ described in previous years, which were not accessible in the collections of the British Museum and which Sir George has had figured in order to include them in his great work now being published by the Trustees of the British Museum upon the Moths of the World.

The small collection of rare Brazilian Lampyrids belonging to the subfamily *Phengodinæ* in our possession, consisting of eight specimens taken by Mr. H. H. Smith in South America, were loaned to Mr. Herbert S. Barber of the United States National Museum, who has studied them and returned them to us. This little collection yielded six types of species new to science. In fact, with the exception of one species, represented by male and female, none of the forms had ever before been described. Professor P. P. Calvert, on the eve of his departure for Guatemala, submitted to the Director the manuscript of his article on the Odonata of South America, which has been published in Part 1 of Volume VI of our Annals. It includes a large number of new species, the types of which remain the property of the Museum. Professor Lawrence Bruner of the University of Nebraska has studied the *Tetrigidæ*, or Grouse-locusts of South America in our possession, and has submitted to the Director the manuscript of a monographic paper upon this interesting group of Orthoptera, describing a great many new species. This paper will shortly be printed. Further reports upon the other families of the Orthoptera submitted to Professor Bruner for study are in course of preparation.

A great deal of work has been done during the past year in aiding pupils in the higher and secondary schools in identifying insects collected by them. A great deal of the time of the Custodian and the Assistant, as well as of the Curator, has been taken up in showing courtesies to persons interested in the study of entomology, who either have visited the Museum in person or have written for information. In this Section, as well as in other Sections, we find the Museum constantly being appealed to for advice and information, and many hundreds of letters and a great deal of time are annually devoted to answering the inquiries of those who are in quest of knowledge.

The finishing touches are being put upon the cabinets destined to hold our large and important collections, and the work of studying them and of consulting them will in a short time be made comparatively easy and will proceed under far more favorable conditions that have hitherto existed.

SECTION OF BOTANY.

OTTO E. JENNINGS, Assistant Curator.

MRS. OTTO E. JENNINGS, Assistant.

PROFESSOR D. R. SUMSTINE, Assistant.

The results attained in the Section of Botany during the past year have been mainly those accomplished by a continuance of the work as carried on in several years past; namely, a combined ecologic and systematic research into the flora of Western Pennsylvania and adjacent territory, the proper preparation and disposal into the herbarium of the various local and foreign collections accumulated, and the acquisition, preparation, and display of material for the public exhibition rooms.

During the early part of the last year the manuscript for the Botanical Survey of Presque Isle, Erie County, Pennsylvania, was put into final shape and the publication appeared in July, 1909, this paper being the first of a series of combined ecological and systematic contributions which it is expected will appear from time to time and in which the general features of the flora of all Western Pennsylvania will eventually have been included. Toward this end a number of trips were made during the year to various points, particularly to the Pymatuning Swamp in Crawford County, to Huntingdon and Center Counties, to the Chestnut Ridge in Westmoreland County, and to several points nearer Pittsburgh. Outside of Pennsylvania, a short trip was made into northern West Virginia and several days were spent in Ohio, at Cedar Point and various parts of Huron County. Upon these various trips extensive field notes have been taken, many photographs made, and altogether about four thousand six hundred specimens collected.

As an aid to a better understanding of the mosses of Western Pennsylvania the Assistant Curator has well under way the preparation of a manual of the mosses of the region, each species being fully described and being illustrated by figures ac-

curately drawn with the aid of a camera-lucida. It is hoped that such a manual may arouse a more general interest in the mosses among the amateur botanists throughout the region and thus, eventually, lead not only to a better understanding of the distribution of these small plants, but also to the preparation of more complete collections.

In the studies requisite to the proper labeling of our various collections a number of discoveries of a systematic nature have been made, including the recognition of three new varieties of seed-plants and of one new variety and one new species of mosses. Besides this the known natural range of five plants has been considerably extended.

To the study of the Fungi of Western Pennsylvania Professor Sumstine has devoted such time as would not interfere with his duties, working over the collections of former years and spending considerable time in collecting more material. After several weeks spent in research at the New York Botanical Garden he made extensive collections in the eastern and central part of Pennsylvania. Professor Sumstine has discovered a few new species during the year and has found a number of others for the first time in America.

In the routine work of the herbarium Mrs. Jennings has succeeded in mounting over 7,000 sheets of specimens, practically all of which have been laid out and labels attached to them during the year, and she also has assisted very ably in collecting and drying our specimens as well as having become proficient in the identification and labeling of certain groups, especially of the *Compositæ*.

That the botanical work of the Carnegie Museum is being widely understood and appreciated is gratifyingly evident in the ever increasing use made of the Herbarium both by specialists, who wish to study some particular group, and by the amateur and semi-professional botanists of Western Pennsylvania and adjacent Ohio, who, either personally or by correspondence, use the Herbarium as a place of reference in matters pertaining to the flora of this region.

During the past year a number of important collections have been acquired aside from those collected by the Staff. Among these may be mentioned the following: Plants of Canada, com-

prising four hundred and fifty-two sheets of seed-plants and ferns and two hundred and seventy-five sheets of Mosses, collected mainly by Professor John Macoun and Dr. J. M. Macoun; *Lichenes Novæ-Angliæ*, comprising fifty specimens prepared and distributed by R. Heber Howe, Jr.; *Lichenes Exsiccati*, seventy-five specimens prepared and distributed by G. K. Merrill; a collection of one hundred and thirty-eight specimens from the headwaters of the Nisutlin River, Yukon Territory, Canada, by Frank R. Koenig; a collection of seventy-seven specimens of "Polyporaceæ of North America," prepared and distributed by Dr. W. A. Murrill; First Century of Pringle's *Musci Mexicani*; a collection of twenty-five seed-plants and ferns collected in Allegheny County by Dr. John W. Dickson, in 1870 and 1871, and a collection of thirty-four specimens of plants collected along the north coast of Norway by Dr. Theodore Diller, both donated by Dr. Adolph Koenig; also several fascicles of various issues of parasitic fungi as obtained in exchange for Fascicle No. 2 of the Pennsylvania Fungi. Altogether there have been acquired during the year from various sources about seven thousand specimens, and a conservative estimate of the number of specimens now in the herbarium, including also such specimens as have been mounted and labeled and will soon be distributed, is as follows:

Pennsylvania Herbarium,	34,000, representing 3,600 species
General Herbarium,	89,000, representing 60,000 species
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Total,	123,000, representing 63,000 species

Through the courtesy of the Philadelphia Museums a fine series of exhibition specimens of various sorts were obtained early in the year. The specimens obtained represent, among other things, fibers, cereal preparations, woods, dye-plants, waxes, resins, etc., mainly from foreign regions and supplementing admirably the exhibition material already in our collections, and in addition to the specimens there were obtained at the same time a set of over fifty fine photographs of an explanatory nature with reference to the specimens.

As heretofore, the Botanical Society during the past year has held its meetings monthly in the Herbarium Room and every reasonable courtesy has been extended to the Society by the members of the botanical staff of the Museum. That this is ap-

preciated by the Botanical Society has often been shown by the members, and it is believed that by this arrangement the Museum is doing much to promote educational work along botanical lines.

SECTION OF MINERALOGY.

W. J. HOLLAND, Director (in charge).
DOUGLAS STEWART, Custodian.

MINERALS.

During the last fiscal year the additions to the mineralogical collections have not been as numerous as heretofore, few specimens having been donated and none having been purchased. Mr. J. L. Lewis has added to the collection which he presented some time ago some very beautiful specimens of chrysocolla obtained by him in Arizona, and also specimens of kunzite, malachite, and smoky quartz. Messrs. Hereen Brothers have made a donation of the interesting collection of crystal models of the famous diamonds of the world which they deposited with us. These, with the model of the Cullinan diamond presented to us by Mr. R. A. Franks, have had descriptive labels placed upon them and are exhibited in the Gem Room.

The use made of the mineralogical collection by students of the Technical Schools and others is constantly increasing, and it is very desirable that cases should be built in the laboratory to contain the large collection which we are unable to use in their present condition and which are so eminently suitable for demonstrations in the class-room.

SECTION OF PALEONTOLOGY.

W. J. HOLLAND, Curator of Paleontology.
PERCY E. RAYMOND, Assistant Curator, in charge of Invertebrates.
A. S. COGGESHALL, Chief Preparator.
EARL DOUGLASS, Assistant in Research, Field, and Laboratory.
SYDNEY PRENTICE, Draftsman.
O. A. PETERSON, Field Collector and Preparator of Mammals.
L. S. COGGESHALL, Assistant Preparator.
A. AGOSTINI, Assistant Preparator.

Mr. Carnegie, with characteristic generosity, has continued his financial support to this Section. We are immeasurably in-

debted to him for having made it possible for the Museum to do the great work which it has accomplished along paleontological lines and which perhaps more than its activities in any other Section, have brought it to the favorable attention of the scientific world. The Director, accompanied by Mr. Coggeshall, spent September and October of last year in erecting replicas of the *Diplodocus* which were kindly presented by Mr. Carnegie to the Emperor of Austria and the King of Italy. The specimen intended for Austria was installed in the K. K. Hofmuseum in Vienna in September, and the specimen presented to Italy was installed in the large Gallery of Paleontology built in the Istituto Geologico in Bologna. Distinguished courtesies were shown both to the Director of the Museum and to Mr. Coggeshall by the Austrian and the Italian Governments. In recognition of Mr. Carnegie's kindness the City of Bologna has presented to the library of the Carnegie Museum a complete set of the first edition of the writings of Aldrovandi in their original bindings. From Senator G. Capellini, formerly Rector of the University of Bologna and now the Director of the Istituto Geologico, we have received a number of publications as well as a series of beautiful specimens representing the fishes of Monte Bolca, and also a relief model illustrating the structure of volcanoes.

Occasion was taken during the visit which your Director paid to Europe to enter into friendly relations of correspondence and exchange with a number of the larger museums in the countries visited, and one of the results has already been the acquisition by exchange of a number of valuable collections as well as of numerous important publications. From the Royal Paleontological Museum in Munich we have received in exchange a large collection consisting of ninety-six lots representing as many species of fossil mammalia from the Tertiary deposits of Europe and of Asia, which will be of great value to us for purposes of study and comparison with allied forms from the Tertiary of North America.

In the early summer Mr. Earl Douglass was sent to Utah in order to continue the work which he had begun in 1908. He was instructed not only to continue his investigation in the Eocene, from which he had the year before taken a very large number of interesting specimens representing species hitherto unknown to

science, but to pay special attention to the outcroppings of the Jurassic and Cretaceous strata in which during the previous years he had found the remains of dinosaurs. In September Mr. Douglass discovered at the summit of a considerable elevation a ledge of rock in which the bones of a large dinosaur were partially exposed to view, the bones being in a very beautiful state of preservation without any indication of crushing or distortion. He began the work of uncovering the specimen and soon ascertained that in all probability the skeleton of the entire animal was in position where it had been originally buried in quicksands, subsequently solidifying into a moderately hard sandstone. As the work proceeded he discovered presently that there were two other dinosaurs imbedded in the same formation. So far as is now known these dinosaurs lie in practically the position in which they died, very little disturbance having occurred. The ribs are articulated to the vertebræ and even the sternal ribs (hitherto unknown to science) are *in situ*. Mr. Douglass has been instructed to take steps to recover these specimens, exercising the utmost care. He is keeping a photographic record of the location of all the parts, and when they shall have been recovered from the matrix it is highly probable that we will have better and clearer information as to the structure of these huge creatures than has hitherto obtained. Mr. Douglass writes most enthusiastically of his discovery and of the work that is going on. He has endured the rigors of the winter, working with the thermometer for weeks at a time below zero, sometimes sinking as low as forty degrees below zero Fahrenheit. It is the intention of your Director, as soon as conditions make it possible for him to do so, to visit Mr. Douglass in order to confer with him in regard to the completion of the important and difficult task which he has before him. For the necessary financial assistance to complete this great undertaking we are indebted to the generous founder of the Institute.

At the same time that Mr. Douglass was sent to Utah, Mr. Peterson was requested to return to western Nebraska, where he resumed work in the quarry which he had opened up the previous year and from which he had obtained the remains of a number of fossil camels in a condition of remarkably perfect preservation. He succeeded in taking out nineteen skeletons of

extinct cameloids, some of them apparently absolutely complete, every bone having been preserved in place.

Before going to the West, Mr. Douglass had worked out and described three new titanotheres, which he had obtained from the Eocene of Utah in 1908. An account of these has been published in the Annals of the Museum. Mr. Peterson, before going West, had completed a monographic paper upon the *Entelodontidae*, likewise published in the Memoirs of the Carnegie Museum. Since his return he has completed the manuscript of an important paper upon New Species of Carnivores from Western Nebraska. The drawings illustrating the same have been made and the paper is being prepared for publication in our Memoirs. The extensive memoir upon the *Chalicotheriidae* undertaken by the Director is nearing completion, and would have been completed before this time had it not been for the constant demands made upon his time by administrative duties and by the necessity for absence for two months in Europe. As soon as the memoir has been completed the great skeleton of *Moropus elatus* recovered in western Nebraska in former years will be set up. The specimen is thus far unique, nothing like it existing in any other museum in the world.

The vast accumulation of material representing the genus *Diceratherium*, obtained from the Miocene of Nebraska has been in part freed from the matrix in the laboratory and a skeleton is being mounted by Mr. Agostini under the direction of Mr. Peterson, who has also been instructed to report upon this material which he collected. There is no perfect skeleton of a *Diceratherium* in any museum in the world, and we are in a position not only to mount a skeleton for our own use, but possibly to prepare two or three others for purposes of exchange with other great museums. Not less than two hundred and fifty skulls of this early Rhinocerotid were taken from Carnegie Hill in Sioux County, Nebraska, together with a vast quantity of the bones of many individuals, young and old. While other mammals were found in this quarry, the remains of *Diceratherium* predominated and were found in such enormous quantities as to almost justify us in speaking of the opening as a quarry of *Diceratheres*.

Mr. A. S. Coggeshall and his assistants, in addition to pre-

paring the two replicas of the *Diplodocus* which were presented to Austria and to Italy, have completed the preparation of a replica the acceptance of which has already been signified to us by His Majesty the Czar of Russia. The specimen has been packed and is awaiting shipment to St. Petersburg, where it is destined to be installed in the great Lecture Hall of the Imperial Academy of Sciences. Mr. Coggeshall also found time during the year to complete and set up the splendid specimen of *Portheus molossus* obtained from the chalk of Kansas some years ago. It is the finest and most perfect specimen representing this huge fish in any museum of the world.

Models of extinct reptiles and mammals have been made by Mr. Theodore A. Mills under the oversight of the Director of the Museum and Messrs. Peterson and Coggeshall. The last specimen made by Mr. Mills is a spirited reproduction of *Proterychochærus carrikeri*.

Dr. Percy E. Raymond has continued his work upon the paleontology of Western Pennsylvania. One of the most important results was the discovery of two new horizons for marine fossils in the Conemaugh series. One of these horizons is at the top of the Birmingham shales and thus higher in the series than the Ames limestone, which has always been supposed to be the youngest marine formation in this vicinity. Marine fossils have now been found in the Birmingham at various points from Allegheny to near Portage, a distance of about one hundred miles. The other marine formation, which lies below the Ames, has been traced from McKees Rocks to Boston Bridge above McKeesport, a distance of over twenty-five miles, and it will likely prove to be still more extensive.

Having in the previous summers obtained a somewhat detailed knowledge of the formation of fossils of the Conemaugh series within the limits of Allegheny County, the work was extended further east and west during the past season, and the Allegheny series was also included. In the Beaver Valley the Vanport limestone of the Allegheny was found to be very fossiliferous and large collections were made, especially at Wampum and New Castle. The fossils are very well preserved and include a few new species, one of them belonging to a new genus of Chitons.

East of Pittsburgh important collections were made in the Conemaugh at Donohoe and in the gaps of the Conemaugh and Loyalhanna through the Chestnut Ridge, where the Mississippian and Devonian are exposed.

A large number of the fossils collected have been identified and the results have been embodied in a paper now ready for publication. The study of the fossils shows that each of the marine formations has certain characteristic species, which makes it possible to recognize it by its fauna, and this will be a great help in mapping and in tracing and identifying the various layers of coal. The fossils also show that there is a great time-gap between the Vanport limestone of the Allegheny series and the base of the Conemaugh, while all the faunules found in the Conemaugh are closely allied. The invertebrate fauna of the Conemaugh proves to be similar to that found in the middle of the Carboniferous in Kansas, and in spite of the vertebrates discovered two years ago, the strata are probably not Permian.

A discovery of purely local importance was made during the process of the excavation for the new baseball park near the entrance to Schenley Park, where Dr. Raymond found large numbers of fossil *Unios* in the pre-glacial river gravels.

During the summer data were collected for a geologic map of the region about Pittsburgh, the area covered being that shown on the special map issued by the United States Geological Survey. The data are at present being applied to the map, which will, when finished, show the outcrops of the various coals and marine limestones, and the geologic structure.

During the season the Assistant Curator was several times consulted by geologists of the Federal Survey and the State geologist in regard to the local geology.

Beside the work done on the geology of this vicinity a considerable amount of time has been devoted to the preparation of three papers on Ordovician trilobites. The State Geologist of Vermont requested Dr. Raymond to furnish a chapter on the trilobites of the Chazy for his next report, and for that purpose forwarded a considerable amount of material collected by his Survey. The report asked for was prepared outside of Museum hours, and will be published late in the present year. The material from Vermont contained some new species and a number

of fine specimens of forms previously known only from fragments. Professor Perkins very generously permitted the use of this new material in advance of his report, and an article on it and other new forms in this Museum has been prepared for publication in the *Annals of the Carnegie Museum*. The recognition among the trilobites of the Chazy of two genera not previously known to occur in this country led to the examination of the other Ordovician *Asaphidæ* in our collections, and as a result two more papers have been prepared, in which a new genus and several species of genera new to this country have been described.

Beside the material collected during the year a small collection of Cretaceous fossils from Syria and a collection of insect-wings from the Coal Measures have been purchased, and a number of specimens have been acquired by donation or exchange.

Much time has been spent in classifying and arranging our collections of vertebrate and invertebrate fossils during the past year, and the entire vast series is now so arranged that it is possible to consult the collections without undue difficulty.

SECTION OF COMPARATIVE ANATOMY AND OSTEOLOGY.

W. J. HOLLAND, Director (in charge).

The work of cleaning, bleaching, and mounting the skeletons in our possession has gone steadily forward during the past year. Mr. Townsend, under the direction of Mr. R. H. Santens, has devoted himself to the task. The skeletons which we have had heretofore stored in the basements have been put as rapidly as they have been prepared for study into the cabinets which have been provided on the third floor, near the laboratory of the Section of Recent Vertebrates, where they may speedily be consulted as occasion requires.

SECTION OF ARCHÆOLOGY AND ETHNOLOGY.

W. J. HOLLAND, Director.

DOUGLAS STEWART (in charge)

THEODORE A. MILLS, Modeler and Sculptor.

D. C. HUGHES, Assistant.

No steps have been taken during the past year to secure the services of a Curator for this Section. The Director and Mr.

Stewart, assisted by Mr. Hughes, have continued to exercise a general oversight over the collections. We have received by exchange with the Riksmuseum of Stockholm a considerable collection of specimens from New Guinea. A considerable number of other objects have been added to the collection, some of them donated by Dr. Eigenmann, secured by him in British Guiana. A large collection of Indian basketry has been placed on deposit by the Misses M. and D. W. Holliedt.

The exhibits illustrating the arts of transportation have been removed from the Gallery of Ethnology, where they were not properly located, and have been transferred to the Gallery of Useful Arts. The space thus made vacant has been provided with exhibition cases in anticipation of the coming celebration of Founder's Day, and a quantity of ethnological material heretofore held in storage will be put on exhibition.

SECTION OF NUMISMATICS.

W. J. HOLLAND, Director (in charge).

A number of donations have been made to our collection of coins and medals. One of the most recent additions to this collection is a proof of the beautiful medal struck by the Bank of Pittsburgh upon the occasion of the one hundredth anniversary of its incorporation. As this bank is the oldest bank on the continent west of the Appalachian ridges, the medal, aside from its perfection as a work of art, possesses great historic interest.

Mr. H. J. Heinz has added three more specimens to his collection of watches, which is on exhibition in the Gallery of Coins and Gems, and the collection now consists of one hundred and three pieces. All of these specimens have been photographed during the past year by Mr. Arthur Coggeshall under the direction of Mr. Douglas Stewart, and Mr. Stewart has completed the manuscript of a Guide-book to the collection, to be illustrated with cuts made from the photographs. The printing of this book will be shortly commenced.

The Messrs. Heeren Brothers very kindly made a present to the Museum of a large series of models of famous gems which a number of years ago they loaned to the Museum, and through

the kindness of Mr. R. A. Franks, of the Board of Trustees, there has been added to this collection a model of the Cullinan diamond.

SECTION OF CERAMICS.

W. J. HOLLAND, Director (in charge).

The Gallery of Useful Arts has at last been put at the disposal of the Museum. The floor, which had not been polished, was finished during the past summer. The use of the room was by the action of the Committee on the Museum, accorded during the month of October to the persons having in charge the missionary exhibits displayed at the time of the centennial anniversary of the origin of the Christian Church. After these exhibits had been removed steps were taken to change the arrangements for lighting the room, the electric switches having been very unfortunately placed at the time of the original construction of the building. Various collections were assembled and orders were given for the construction of new cabinets.

Our collection of ceramics has been assembled and a definite space has been assigned in the new hall to these things. The collection of Chinese ware donated by Mr. and Mrs. Carnegie has been arranged. Through the kindness of Mrs. D. A. Stewart we have received as a loan a beautiful porcelain service painted by Marie Angélique Catherine Kauffmann (better known as Angelica Kauffmann). From the Messrs. Tiffany & Company we have received as a loan a beautiful collection of Favrite glass, consisting of forty-nine pieces. Other collections have been received from various sources partly as donations and partly as loans. The National Potteries Association took occasion at its last annual convention in Washington to make the Carnegie Museum a depository, and a committee was appointed to confer with the Director of the Museum in order to arrange for the display here of the wares produced by the various establishments concerned in the manufacture of pottery-ware throughout the United States. The American Encaustic Tiling Company, of Zanesville, Ohio, has already sent us some interesting exhibits.

SECTION OF TEXTILES.

W. J. HOLLAND, Director (in charge).

Two large cases have been filled with costumes, either the property of the Museum or loans, and a number of choice pieces of embroidery, representing Oriental workmanship, have been prepared for exhibition. These exhibits are also displayed in the new Gallery of Useful Arts.

SECTION OF GRAPHIC ARTS.

W. J. HOLLAND, Director (in charge).

A recent addition to our collection here has been made by the J. C. Bragdon Company, who have donated a series of specimens illustrating the art of making prints by photo-engraving processes. Other collections illustrating the processes of making prints and engravings are being prepared.

SECTION OF TRANSPORTATION.

W. J. HOLLAND, Director (in charge).

WILSON BANKS, Modeler.

The large collection of specimens belonging to this Section has been transferred to the western end of the Gallery of Useful Arts and is there arranged systematically. Mr. Banks has not been able during the past year to do much work in adding to the models we already possess, his time having been fully occupied in the task of constructing the cases that are needed in the Museum.

CARVINGS IN WOOD AND IVORY.

DOUGLAS STEWART (in charge).

A case was constructed during the past year to contain the triptych presented by Mr. Herbert DuPuy to the Museum. It is thus protected effectually from the fingers of the curious and from the action of the atmosphere. Mr. Heinz' beautiful collection of ivories is being arranged in cases which we have purchased from the Library Bureau. The collection has been greatly admired and is one of the most attractive features of the new gallery.

ART WORK IN METALS.

DOUGLAS STEWART, Assistant to the Director (in charge).

The valuable and interesting collection of Japanese spears and arrow-heads deposited by Mr. Irwin Laughlin has been arranged and carefully labeled, a translation of the original catalog in Japanese having been made. The collection of pistols and revolvers of Mr. Otho J. Bierly has been removed from the Gallery of Archæology and placed with the other collections of arms and armor, ancient and modern, in the Gallery of Useful Arts. Here, too, has been placed the beautiful collection of the replicas of silver carvings made by Peter Flötner of Nuremberg, kindly purchased for the Museum by Mr. Herbert DuPuy. The Director, in passing, desires to express in this connection his deep appreciation of the generous kindness of both Messrs. Heinz and DuPuy, who, in a most public-spirited manner, have interested themselves in securing for the Museum and placing there either as gifts or as loans the choice collections to which reference has been made here and elsewhere.

HISTORICAL COLLECTIONS.

REV. DR. A. A. LAMBING, Honorary Curator.

A number of minor gifts consisting of old letters, manuscripts, and souvenirs have been received during the past year and have been properly accessed. No very considerable additions of a remarkably noteworthy character have been made to the collections. Numerous offers have been made to donate or to deposit with the Museum as loans vehicles and cumbrous pieces of furniture about which linger historical traditions incapable of verification. The Director has made it his policy to decline such offers, as to accept them would be to tax our space with things which, while they may be interesting to present owners for various reasons, nevertheless are devoid of actual worth from the standpoint of museum administration. A great many persons seem to think that simply because an object is old that therefore it possesses in virtue of its age and concomitant shabby condition a large value and interest. It is hopeless to attempt to dispel this popular and widespread notion, and it sometimes calls for great ingenuity on the part of the Director to refuse gifts of this sort without giving

offence to very worthy people. It may be said in passing that it is very remarkable how many old organs, melodeons, pianos, etc., exist, which are reputed by their owners to be the first either made in or imported into the United States of America. The correspondence in relation to such matters which comes to the attention of the Director of any Museum would furnish material for a very amusing article illustrating human credulity.

THE LIBRARY OF THE MUSEUM.

The additions to the library during the past year consist of seven hundred and seventy-nine bound volumes, two hundred and fifty-seven unbound volumes, and twelve hundred and twenty-six parts of volumes and pamphlets, making a grand total of two thousand two hundred and sixty-two entries. We obtained by purchase for a nominal sum the geological and paleontological library of Professor J. J. Stevenson of New York City. The acquisition fills many important lacunæ in our list of the geological surveys of many of the American States and of foreign countries. A number of rare books relating to the earlier explorations of the region west of the Mississippi are contained in this lot. The literature obtained by exchange of our own publications constitutes a very important part of our accessions. We are in relations of exchange with a large number of scientific societies and museums in all parts of the globe, and there is a constantly growing demand for the papers issued from time to time by the Museum.

In addition to the books purchased and received in exchange we have received three hundred and twenty-eight books and pamphlets as gifts. A number were donated by Senator Giovanni Capellini of the Istituto Geologico of Bologna, Italy, and perhaps the most interesting gift was a set of the first edition of the writings of Aldrovandi in thirteen large quarto volumes in the original binding. This set was presented by the City of Bologna at the instance and by the command of the Marquis di Tanari, the Syndic of Bologna, and is a duplicate set which had long been treasured in the great municipal library of Bologna.

PUBLICATIONS OF THE MUSEUM.

During the past year the last part of Volume V of the *Annals* was published and this volume has been issued in bound form.

Volume VI is passing through the press. Two parts of Volume IV of the Memoirs have been issued. The Monograph upon the Fishes of Guiana, in preparation by Dr. C. H. Eigenmann, is intended to be issued in Volume V of the Memoirs. Volume III of the Memoirs is in a backward state, because of the failure since my last report was submitted to the Board to receive anything from Dr. Hartman. He intends, however, shortly to visit America, and has written me that he will bring the manuscript of his unfinished Memoir upon his researches in Costa Rica with him, so that arrangements may be made to complete the work.

The papers published during the past year by the members of the staff and others who have written upon our collections, are as follows:

Blosser, Christian B.:

Report No. 3 of the Expedition to British Guiana, The Marine Fishes.
Annals Carnegie Museum, Vol. VI, pp. 295-300. 3 pls.

Calvert, Philip P.:

Contributions to a Knowledge of the Odonata of the Neotropical Region, Exclusive of Mexico and Central America. Annals Carnegie Museum, Vol. VI, pp. 73-280. 9 pls.

Carriker, M. A., Jr.:

An Annotated List of the Birds of Costa Rica including Cocos Island.
Annals Carnegie Museum, Vol. VI, p. 314 *et seq.*

Douglass, Earl:

Dromomeryx, a New Genus of American Ruminants. Annals Carnegie Museum, Vol. V, pp. 457-479. 5 pls.

A Preliminary Description of Some New Titanotheres from the Uinta Deposits. Annals Carnegie Museum, Vol. VI, pp. 303-312.

Durbin, Marion Lee:

A New Genus and Twelve New Species of Tetragonopterid Characins.
(Report No. 2 of the Expedition to British Guiana.) Annals of the Carnegie Museum, Vol. VI, pp. 55-72.

Eastman, Charles R.:

A New Species of Helodus. Annals Carnegie Museum, Vol. V, pp. 488-9.

Eigenmann, C. H.:

Some New Genera and Species of Fishes from British Guiana. (Report No. 1 of the Expedition to British Guiana.) Annals Carnegie Museum, Vol. VI, pp. 4-54.

Cave Vertebrates of North America. Publications Carnegie Institution, Washington, No. 164, pp. IX + 241. 31 pls., 72 text figs.

Catalogue and Bibliography of the Fresh-water Fishes of the Americas South of the Tropic of Cancer. Reports of the Princeton University Expedition to Patagonia. 1896-1899. Vol. III, Part IV, pp. 375-511.

Holland, W. J.:

Twelfth Annual Report of the Director of the Carnegie Museum for the Year ending March 31, 1909. Pp. 1-93.

In Memoriam. Charles Chauncey Mellor. Annals Carnegie Museum, Vol. V, pp. 490-503. 1 pl.

Dinosuchus hatcheri, a New Genus and Species of Crocodile from the Judith River Beds of Montana. Annals Carnegie Museum, Vol. VI, pp. 281-294.

Coöperation between Museums. Address of the President of the American Association of Museums, delivered at Philadelphia, May 11, 1909. Proceedings of the Am. Assoc'n of Museums, Vol. III, pp. 9-14.

Die Geographische Verbreitung der Schmetterlinge, by Dr. A. Pagenstecher. Book Review. Science, N. S., Vol. XXXI, pp. 346-248.

Annals Carnegie Museum, Vol. V, No. 4-Vol. VI. Edited.

Memoirs Carnegie Museum. Vol. IV, Nos. 3-4. Edited.

Jennings, Otto E.:

A Botanical Survey of Presque Isle, Erie County, Pennsylvania. Annals Carnegie Museum, Vol. V, pp. 289-421. 28 pls., map, and chart.

The Labrador Tea in Ohio. Ohio Naturalist, Vol. X, p. 13.

Hymenophyllum denticulatum in Central China. Fern Bulletin, Vol. XVII, pp. 106-107.

Jordan, David Starr, and Robert Earl Richardson:

A Catalog of the Fishes of Formosa. Memoirs of the Carnegie Museum, Vol. IV, pp. 159-204. 12 pls.

Millward, Williams:

Fossils from the Glacial Drift and from the Devonian and Mississippian near Meadville, Pa. Annals Carnegie Museum, Vol. V, pp. 480-487.

Ortmann, A. E.:

A Preliminary List of the Unionidæ of Western Pennsylvania, with New Localities for Species from Eastern Pennsylvania. Annals Carnegie Museum, Vol. V, pp. 178-210.

Unionidæ from an Indian Garbage Heap. Nautilus, Vol. XXIII, pp. 11-15.

The Description of the Freshwater Fauna in Western Pennsylvania.

- Proceedings American Philosophical Society, Vol. XLVIII, pp. 90-110. 1 pl.
- A New System of the Unionidæ.* Nautilus, Vol. XXIII, pp. 114-120.
- Peterson, O. A.:
- A Revision of the Entelodontidæ.* Memoirs Carnegie Museum, Vol. IV., pp. 41-158. 9 pls.
- A New Genus of Carnivores from the Miocene of Western Nebraska.* Science, N. S., Vol. XXIX, pp. 620-621.
- Raymond, Percy E.:
- The Fauna of the Upper Devonian in Montana. Part I. The Fossils of the Red Shale.* Annals Carnegie Museum, Vol. V, pp. 141-158. 6 pls.
- Some Sections of the Conemaugh Series between Pittsburgh and Latrobe, Pennsylvania.* Annals Carnegie Museum, Vol. V, pp. 166-177. 3 pls.
- Notice of Two New Horizons for Marine Fossils in Western Pennsylvania.* Science, N. S., Vol. XXIX, pp. 940-941.
- Richardson, Robert Earl:
- See Jordan, D. Starr.
- Stewart, Douglas:
- A Catalogue of Relics and Objects, Many of Them Pertaining to the Early History of Pittsburgh Exhibited at the Museum upon the Occasion of the Sesqui-Centennial Celebration of the Founding of Pittsburgh, Sept. 27-Nov. 25, 1908.* Annals of the Carnegie Museum, Vol. V, pp. 422-451. 7 pls.

CIRCULATING COLLECTIONS.

The circulating collections which the Museum has prepared for use in the schools have been as much in demand during the past year as in any previous year, and have rendered good service, especially in connection with the work of the Playground Association. It is hoped to make material additions to the number of these circulating collections in the near future.

ANDREW CARNEGIE NATURALISTS CLUB.

The Club has regularly held its meetings during the past year, and I am informed that these meetings have been very well attended. During the summer months a number of excursions to the fields and woods were made by the young people. Quite

a number of young men now in college pursuing scientific studies attribute their first interest in scientific matters to the impulse gained during the time when they were members of this association.

THE WORK OF THE COMING YEAR.

An examination of the financial statement will show that we have expended in the neighborhood of seven thousand dollars more during the past year than the amount of the appropriation allowed to us by the Trustees. We brought over into the past year a balance of seven thousand dollars, which was the result of the economies of the previous year. I called attention in my last annual report to the fact that these economies were not of a kind which it is very creditable for an institution of our character to adopt. We effected a saving by failing to fill vacancies in the force in which service was badly needed. We resolved, in order to secure the necessary furniture and other equipment, that there would be practically a suspension of activities along certain lines. We are following the same policy at the present moment. No Curator of the Section of Archæology and Ethnology has been appointed. We are simply "marking time." The same thing is true of a number of other Sections, which are nominally in charge of the Director. Your Director has acted as book-keeper, editor, proof-reader, foreman of the shops, draughtsman, designer, and Curator of half a dozen Sections, besides attending to a vast amount of strictly scientific work, in addition to attending to the general administration. His daily hours of work extend from 9 A.M. to 12 P.M., with few exceptions. Loading upon himself all the burdens which it is possible for him to carry, he has succeeded in saving three or four salaries to the institution. He is perfectly willing to do this as long as health and strength last, but while we note progress and advance on many lines, our progress and advance would have been much greater and our work more satisfactory, and the strain of the work would have been less not only in the case of the Director, but of every other member of the force, had the Board seen its way clear to continue to us at least the small appropriation which was made in the fiscal year from 1908 to 1909, and not reducing the appropriation for the Museum as was done during the last

fiscal year. Your Director recognizes that other Departments have their necessities, but he ventures to call the attention of the Board to the fact that there is probably no Department of the Institute which is more widely and favorably known throughout the world than the Department over which he has the honor of presiding, that its usefulness is universally admitted, and there should be regard had to our actual wants, which are not less than those of other Departments. He trusts that the Board of Trustees in their zeal to promote the welfare of other Departments of the Institute will not imagine that the Museum can be successfully administered on an amount very little greater than was accorded to it in the days when its halls of exhibit occupied but six small rooms and when the staff consisted of but a half dozen persons. In approaching the work of the coming year your Director takes the liberty of saying that he ought to have in the coming year at the very least, in order to prosecute the work committed to him successfully and satisfactorily, the sum of seventy-five thousand dollars. The fact that by simply refusing to do necessary things he has kept his expenditures within the limits of the appropriation should not be taken as an argument for permanently withholding the means that are required to do these necessary things. Economies in the administration of the Museum have been carried to the very last extreme in order that the year might be closed with a balance, as deficits under the by-laws are absolutely prohibited. If it had not been for the generosity of Mr. Carnegie in furnishing the funds for paleontological research your Museum would not occupy the position which it holds in the world to-day.

Your Director does not wish what he has said to be taken as expressing in any sense a fault-finding or captious spirit, but having been obedient to the letter and having refused to undertake to do things which might well have been done, and which it was perfectly proper for the Museum to do, and having thus come to the end of the financial year with a small balance, he does not wish it to be understood that this fact is evidence in any sense that the appropriation made to the Department over which he has the honor of presiding is at all adequate to its necessities.

STATEMENT OF THE PROPERTY, OR ASSETS, OF
THE CARNEGIE MUSEUM, NOT INCLUDING
CASH ON HAND, MARCH 31, 1910.

Collections purchased or made by the Museum (cost)	\$250,625.98
Collections donated of which the cost to donors is known	199,042.50
Photographs, Paintings, and Frames.....	1,419.50
Exhibition Cases	123,524.59
Storage Cases, Boxes, Trays, etc.....	18,493.84
Furniture	4,769.96
Herbarium Boxes, etc.	617.16
Photographic Apparatus	596.93
Laboratory Fixtures	1,903.54
Tools & Machinery	1,997.22
Library, Books obtained by donation or exchange	\$10,765.00
Books purchased and binding...	24,369.03
	<hr/>
Publications on hand for sale or exchange	35,134.03
	9,005.60
	<hr/>
Total	\$647,130.85
Collections deposited in Museum as Loans —Estimated value	88,850.00
	<hr/>
Grand Total	\$735,980.85
Total value of assets of Museum, March 31, 1909	670,648.74
	<hr/>
Increase in value of property in Museum during the year ending March 31, 1910	\$ 65,332.11

This statement does not take account of several thousands of smaller gifts and accessions, the value of which cannot well be estimated, but which would raise the total considerably.

**FINANCIAL STATEMENT FOR THE YEAR
ENDING MARCH 31, 1910**

GENERAL FUND.

To Balance on hand April 1, 1909.....	\$ 7,419.18	
“ Appropriation for year 1909-10.....	60,000.00	
“ Sundry Refunds	113.14	
“ Cash from sale of publications.....	345.00	
	<hr/>	\$67,877.32

CR.

By Salaries	\$33,527.68	
" Repairs to Exhibition Cases	17.89	
" Repairs to Furniture	8.10	
" Repairs to Storage Cases, etc.	9.00	
" Repairs to Laboratory Fixtures	11.36	
" Repairs to Tools and Machinery	1.25	
" Office Supplies	339.05	
" Stamps and Telegrams	223.35	
" Expressage, Freight and Drayage	793.94	
" Incidentals	99.40	
" Traveling Expenses and Carfares.....	621.25	
" Laboratory Supplies	320.22	
" Packing and Unpacking	5.50	
" Telephone Rental	165.00	
" Alcohol, Drugs, etc.....	2,274.45	
" Publications	4,288.48	
" Collecting Materials	23.69	
" Storage Charges .....	.30	
" Dues of Museums Associations.....	15.15	
" Herbarium Supplies	37.11	
" Labelling	350.70	
" Photographic Supplies	132.36	
" Exhibition Cases	10,117.94	
" Furniture	1.38	
" Storage Boxes, Glassware, &c.	1,166.66	
" Photographs	7.15	
" Photographic Apparatus	141.93	
" Laboratory Fixtures	127.26	
" Tools & Machinery	724.99	
" Entomological Supplies	26.22	
" Books Purchased	2,773.63	
" Books Binding	132.20	
" Collections Purchased	8,573.58	
		\$67,058.17
Balance on hand April 1, 1910,		819.15

Audited and found correct.
GEO. F. SHEERS, Auditor.

STATEMENT OF THE CONDITION OF THE SPECIAL
FUND PROVIDED BY MR. CARNEGIE FOR
PALEONTOLOGICAL RESEARCH.

DR.

April 1, 1910—

To Balance on hand April 1, 1909.....	\$ 202.31	
“ Cash Received from Mr. Carnegie at		
Sundry Times	11,250.00	
“ Interest on Daily Balances	33.49	
“ Sundry Refunds	43.09	
		<u>\$11,528.89</u>

CR.

By Expended for Salaries	\$ 6,155.80	
“ Freight	272.41	
“ Field Expenses, including the traveling		
expenses of Messrs. Douglass and		
Peterson, wages of men hired to		
work in quarries, supplies, pro-		
visions, and keep of teams.....	3,865.00	10,293.21
		<u>\$ 1,235.68</u>
Balance on hand April 1, 1901.....		\$ 1,235.68

Audited and found correct,
GEO. F. SHEERS, *Auditor*.

PUBLICATION FUND.

DR.

April 1, 1910.

To	Balance on hand April 1, 1909	\$ 109.43	
"	Cash from Sales of Publications	238.80	
"	Interest on Daily Balances	3.13	
"	Received from General Fund	4,288.48	
			<u>\$4,639.84</u>

CR.

By	Paid Draughtsmen and Photographers for Drawings & Photographs il- lustrating Publications already issued or being prepared for pub- lication	\$ 813.61	
"	Paid for Artists' Materials	15.15	
"	Paid J. C. Bragdon for engraving Plates and Cuts	587.37	
"	" Zeese, Wilkinson & Co. for en- graving and printing Colored Plate for Annals	79.62	
"	" Norris Peters Co. for engraving & printing Map of Costa Rica...	58.00	
"	" Southern Printers Supply Co. for Electrotypes	10.15	
"	" E. F. Anderson Co., Ltd., Print- ing Map	2.40	
"	" Murdoch Kerr & Co. for Print- ing Annual Report for 1909.....	259.75	
"	" New Era Printing Co., Acct. Printing & Binding Annals & Memoirs	2,462.43	
"	" Refunded to General Fund	345.00	
			<u>\$ 4,633.48</u>
	Balance in Union Trust Co., April 1, 1910,	\$	6.36

FUND FOR THE ACQUISITION OF EGYPTIAN ANTIQUITIES.

DR.

April 1, 1910.

To Balance on hand April 1, 1909	\$2,592.33	
“ Interest on daily balances	49.47	
Total.....	<u> </u>	\$2,641.80

THE CARNEGIE INSTITUTE

PITTSBURGH

Seventh Annual Report of the
Director of the Technical Schools
For the Year Ending March 31, 1910

TECHNICAL SCHOOLS COMMITTEE

1909-1910

WILLIAM McCONWAY, *Chairman*

JOHN A. BRASHEAR

W. L. SCAIFE

W. N. FREW

W. A. MAGEE

R. A. FRANKS

CHARLES L. TAYLOR

JOSEPH BUFFINGTON

LETTERS OF TRANSMITTAL

MR. WILLIAM MCCONWAY,

Chairman of Committee on Technical Schools, Board of Trustees,
Carnegie Institute.

DEAR SIR:—Permit me to herewith transmit to you the annual report of the Director of the Carnegie Technical Schools for the fiscal year 1909-1910. This report will, I trust, prove of value as a record of the achievements of the year when included in the archives of the Board of Trustees of the Carnegie Institute.

During this year, owing to my serious illness, it has been necessary to delegate a large part of the responsibility to members of the executive and administrative staff, and I am happy to record that the Institution has made fine progress under their careful guidance, and, due to their serious efforts, our development has proceeded without abatement.

After the long period of rest which was allotted to me by the Committee on Technical Schools, aided by the generous assistance of Mr. Carnegie and the individual members of the Committee, I have been enabled to regain my health and vitality, and at this writing I am prepared to undertake my assignment of serious work for the next year. Permit me to express my gratitude and appreciation to all my colleagues who have labored so conscientiously that I might be spared many heavy burdens during my period of convalescence.

Respectfully submitted,

ARTHUR ARTON HAMERSCHLAG,
Director.

ANNUAL REPORT OF THE DIRECTOR OF THE CARNEGIE TECHNICAL SCHOOLS

FOR THE FISCAL YEAR ENDING APRIL 1st, 1910

**TO THE COMMITTEE ON TECHNICAL SCHOOLS OF THE BOARD OF
TRUSTEES OF CARNEGIE INSTITUTE:**

The preceding annual reports dealt with constructive progress in buildings, equipment and in organization. During the past year a continuation of this progress must record further development along similar lines so as to carry forward the archives of the Board of Trustees.



ON THE CAMPUS

VISIT OF THE FOUNDER—It is with pleasure that we are able to record the visit of Mr. and Mrs. Carnegie to Pittsburgh, particularly since this was their first opportunity to meet the student body and view the various departments of the Technical Schools. It is difficult to describe the warm welcome with which they were received, and to picture the pleasure with which every one at the Schools entered into the spirit of the occasion. This visit marks an epoch in the history of the Schools, the record of which will be more fully described in the souvenir pamphlet now in preparation.

During the tour through the four Schools of the group Mr. and Mrs. Carnegie gave repeated evidence of their cordial interest in the plans and ideals as expressed by the instruction offered to the students. Their many expressions of satisfaction and surprise have deeply touched the Faculties, and will thereby inspire them to renewed efforts to keep up the good work of serving the students and the community. The addresses made by both Mr. and Mrs. Carnegie were intensely stimulating, and won the hearts of all who heard them, and marked an event the record of which will be treasured for sons and daughters of the Alma Mater in the years to come.

Before leaving Pittsburgh Mr. Carnegie issued the following statement to the press:

"Mr. and Mrs. Carnegie have not spent so useful and satisfactory a day for many years as they have just finished. They are surprised at what has already been accomplished and will leave Pittsburgh more than ever convinced that no money they ever gave is more productive of good than that for the Technical Schools. With 2,200 students already in attendance and thousands wishing admission, and the reputation the Schools have made throughout the world, it is a record which has never been equaled by any similar institution in so short a time, and the end is not yet."

INTERNAL ADMINISTRATION—The internal administration of the Technical Schools has received most careful and exhaustive study during the past year. The organization of an Administrative Council, consisting of the Deans and members of the Executive Staff, has proven to be most effective in the transaction of

general business, in the coördination of the four Schools, and in the solution of many educational problems. This Council has had many meetings and its harmonious deliberations have familiarized each member with the results achieved in each of the four Schools and made for a mutual helpfulness which has lightened the burdens imposed upon each executive or administrative officer.

FACULTY COMMITTEES—The organization of the Faculties has likewise proven effective for the transaction of the routine affairs of each of the four Schools. In addition, the vesting in committees of the Faculties of certain phases of the whole problem, has resulted in quickening interest and aided in the solution of many student problems.

STATISTICAL REPORTS—The Registrar has developed a group of statistical tables far superior to anything heretofore available, placing thereby information concerning student enrollment, entrance ages, preparation, schedules of instruction, comparisons with previous records, within the reach of the officers of instruction. This work is of incalculable benefit, and it is hoped that a continuation of it may result in increased efficiency, due to the better understanding of many phases of the problem which so large a student body must inevitably present to the educator.

SYSTEM OF ACCOUNTS—The Cashier and Auditor have inaugurated a system of interior school accounting and a similar system applicable to each of the executive departments. This has proven to be of inestimable value in constantly familiarizing each officer with his financial position from month to month, enabling him to shape his policy of expenditures to secure the best returns for a given outlay.

IMPROVEMENT OF SITE—The Superintendent of Buildings reports the physical properties, including the grounds, as being in better condition than in any other previous year. The grounds surrounding the buildings are only partially graded, cleared and planted, but even this partial removal of refuse and building material has been a task of considerable magnitude. The result of this work has added much to the beauty of the surroundings.

MAINTENANCE OF EQUIPMENT—The Engineering Office, having charge of the purchases and maintenance of equipment, has been compelled to operate on so small a margin that it is a

pleasure to record that in spite of this handicap the equipment has been maintained and is in as fine condition as it was at the beginning of the year. Breakage and repairs have been undertaken and a sinking fund set aside to care for needed replacements.

STUDENT ACTIVITIES—The Secretary has undertaken a task in connection with student activities, looking toward their united recognition of the principles of democracy and solidarity which cannot help but be influential in the development of the *esprit de corps* of the Carnegie Technical Schools. One particular department of the Secretary's work calls for special mention. The Employment Bureau has been exceedingly successful in obtaining employment for both graduates and undergraduates, the latter needing part-time employment which is very difficult to secure. Over \$51,000.00 in salaries has been paid to students during the past year who have found employment through this avenue of the executive department's work.

NEW POLICY IN ATHLETICS—The reorganization of the entire student athletic activities upon a cash basis gives promise of solving a most vexatious topic without materially affecting the volume of interest on the part of the students in their games and exercises. Until something like a gymnasium, a swimming pool or similiar adjunct to the athletic field can be provided, the department of health under which these activities naturally fall, can do but little except to control excesses, or the reverse, promoting maintenance of hygienic health on the part of the students.

COST OF INSTRUCTION—During the present fiscal year there has been every effort made to reduce the *per capita* cost of the student for the year, but it has been found that any attempt in this direction would result in a lowering of standards of instruction and jeopardize the quality of the work heretofore done. It has therefore been recommended that, rather than impair the usefulness of the institution in that direction, it would be wiser to limit, rigidly, the whole enrollment to within that total which can be successfully handled by the annual income appropriated for that purpose.

BETTER ENTERING CLASSES—The whole number of students registered is slightly in excess of 2200. This number having been

fixed in advance by the Committee on Technical Schools, it has been necessary to carefully select those applicants whose earnestness and preparation make them the best student material. This has resulted in an improvement in the quality of the entering classes. Without increasing materially the average age, the entering class is better prepared than any that entered in other years. This is a source of extreme gratification to the Faculties as it relieves them of much instructional matter which logically belongs to the preparatory and public school systems. With better preparation and a more uniform group of students, greater and more rapid progress in covering the instruction offered should result in a larger percentage of graduates capable of making fine records in their careers and adding to the reputation of the Schools.

COMMENCEMENT EXERCISES—The second Commencement Address was delivered by Dr. Richard C. Maclaurin, M.A., LL.D., Sc.D., newly elected President of the Massachusetts Institute of Technology, upon "The Idea of Commencement," on Wednesday, June 16th, in the Carnegie Music Hall. It was an address of an exceedingly scholarly nature to which Dr. Maclaurin had given much thought, and to him we wish to extend our thanks and appreciation, particularly as his acceptance of this invitation, we trust, will mean the establishment of cordial relations between his institution and our own.

PROGRESS OF THE GRADUATES—The number of graduates was 232, the largest total in any single year thus far, and the reports recently received from them and their predecessors have aroused much interest in their careers. Naturally, it is difficult to predict what their success will be, but it is evident that their preparation has enabled them to instantly secure employment and in some cases to advance with rapidity in their chosen professions and occupations.

In the previous annual reports the Director called attention to the importance of securing for the Carnegie Technical Schools the powers granted to similar educational institutions by the State of Pennsylvania, and conferences and opinions of our graduates further emphasizes this need.

ENDORSEMENT OF THE SCHOOLS—A large number of investigating committees and representatives of other educational in-

stitutions have visited the Schools, making a study of our plans, purposes and achievements. These visitors are united in conveying to us expressions of interest. In all parts of the country the recognition of the work of the Margaret Morrison Carnegie School for Women has been unanimous. The success of the students in Architecture in the School of Applied Design has called for frequent favorable public comment. Many representatives of educational institutions have spoken flatteringly of the work of the School for Apprentices and Journeymen, whilst the School of Applied Science has likewise had the distinction of having certain of its features copied by older, established engineering schools of good rank. The American-Scandinavian Society has selected it as the place in which to instruct three students chosen by competition in Norway, Sweden and Denmark. These evidences of the interest with which the progress of the whole work is held convey but a few of many similar words of endorsement of which we are constantly advised, and I trust will be ample reward for the never-ceasing enthusiasm and earnest efforts made by the Faculties to bring this institution to the forefront for the good of the city of Pittsburgh.

UNCOMPLETED PROJECTS—Mention was made last year of the need for a building in which to house the School of Applied Design. The importance of the work done in this School has resulted in widespread interest, resulting in an increased enrollment which finds its accommodations, particularly in Architecture, inadequate to meet the existing need. It is hoped that any new construction contemplated will make it possible to more satisfactorily equip and house this School.

Machinery Hall is only partially erected, and the needs of these departments make early extensions desirable.

The approach and entrance to the Applied Science buildings are of a temporary character, pending the erection of a building for which the foundation work is complete.

The Commons, or student restaurant, occupying a portion of the Bricklaying temporary structure, can never be satisfactorily administered until suitably located in quarters designed for that purpose.

STUDY ROOM FACILITIES—During the past year more than in any other period of the Schools' history there has been felt a need for a general assembly where all the students could, at frequent intervals, be gathered together to hear from distinguished visitors, participate in lectures of general interest and to stimulate a closer union between the students of the several departments. Perhaps even more important still than the general assembly, the Schools have felt the need of a study hall and reading room facilities, as we are much handicapped in having no common study rooms in which the students can prepare their class room work.

ANNUAL REPORTS OF EXECUTIVE OFFICERS—There will be appended to this report of the Director abstracts from extensive and well-considered reports which, at some length, deal with the details of the several departmental activities, and perusal of which is earnestly suggested to the Committee on Technical Schools. In them, the Deans and other executive officers have touched upon the vital tasks to which the year's work has been dedicated.

There is also attached to this report a financial statement prepared by the auditor of the Carnegie Institute, fully describing the detailed receipts and expenditures for the fiscal year.

This report must not be concluded without a statement that much of the progress and successful development of the year has been due to the unselfish efforts of the Committee on Technical Schools and of Mr. William McConway, Chairman, and Mr. W. Lucien Scaife, Secretary, who gave unremitting attention to many of the details of the work in order that your Director might have long periods of rest to recuperate during his illness and convalescence. Therefore, I take this opportunity of extending to them my deep sense of thankfulness, and of telling them how much I owe them for the growth which the institution has gained by reason of their unselfish service.

Respectfully submitted,

ARTHUR ARTON HAMERSCHLAG,
Director.

April 8, 1910.

ABSTRACTS FROM THE REPORT OF THE SECRETARY

TO THE DIRECTOR:—

I herewith submit an annual statement from this office covering the growth and development of student activities during the past year.

With reference to the work of the Committee on Student Activities I take pleasure in recording the very active interest shown by the members. Meetings have been held each Wednesday since October and have been very fully attended. They have considered all matters brought before them by the student delegates and have given whatever measure of guidance in the conduct of these activities seemed in their judgment wise. They have felt, however, that a better understanding on the part of the student delegates as to the administering of the student activities fund was desirable. With this end in view, the student delegates now hold semi-monthly meetings to discuss affairs relating to their own organizations, and once a month the Faculty Committee holds a joint meeting with the delegates. These meetings we firmly believe are having a salutary effect.

Below is a list of activities previously organized:

MEMBERS.		MEMBERS.	
The Tartan	15	Craftsmen's Club	143
The Thistle	26	Mechanical Engineering Soc. .	78
Carnegie Tech Band	18	Civil Engineering Society . .	69
Carnegie Tech Orchestra . .	11	Crucible Club	33
Glee and Mandolin Club . .	56	Mho Club	42
White Friars Dramatic Club.	78	Tech Architectural Club . .	41
M. M. C. S. Glee Club	34	Tech Mechanics	26
M. M. C. S. Dramatic Club . .	45		

Organized during the past year:

MEMBERS.		MEMBERS.	
Esperanto Society	132	Tech Design Club	18
Margaret Morrison Guild for		Wireless Club	21
Workers	75	Aero Club	32

The very high scholarship standards required by the Faculties of the Carnegie Technical Schools make it difficult for the student organizations to become firmly established at so early a date, but this same factor will no doubt tend to give them greater strength and stability when the student is made to see that however desirable these activities may be they must remain secondary to his course of study.

There has been a growing evidence of good feeling in the organizations composed of students from more than one school. On the whole more care has been taken in the selection of the right men to manage the different organizations, and in their public appearances they have acquitted themselves creditably in the eyes of the public.

The experiment was tried last year of organizing a Student Senate in the School of Applied Design. This Senate consists entirely of students to whom are referred by the Faculty such matters as come within their jurisdiction. The result, after a year's trial, has been satisfactory to the students and Faculty alike, and significant for the future.

The Committee, however, believe that it is too early at the present time to establish student government, but wish to go on record as desiring to encourage this tendency, their attitude being that they are fostering student initiative as far as it is wise to go in this direction at the present time, and that traditions are not long enough established to insure the best results under student control.

In addition to the executive business transacted through this office, the following reports may be of interest:

STUDENT LOAN FUND—As the existence of this fund has never been officially made known to the students, it is possible that many have not had the opportunity of availing themselves of its benefits. I have, however, endeavored to investigate the source of any information leading to a worthy case, but in many instances there has developed an unwillingness on the part of the student to assume an obligation unless driven to the last extremity, so that I have tried to supplement the purpose of this fund with the employment bureau, and have relieved a great many urgent cases in this way.

BUREAU FOR STUDENT AID—The record of the Bureau for Student Aid shows nearly thirty per cent. increase in wages earned by students over last year's figures. The total wages secured by students and graduates this year to date figures \$51,677.00, of which \$37,567.00 was secured by undergraduates and \$14,110.00 for graduates. The earning power of the students has been estimated on the basis of time for which the student was engaged, either in temporary work by the week, or by the month or year. It should be clearly understood that the above are the results obtained through the efforts of this Bureau. A large number of students, especially graduates, have secured positions through the members of the Faculty and through other means.

It may be interesting to mention the various kinds of work in which students find employment, as follows: Clerks, ushers, ticket takers, waiters, keeping lawns and gardens, packers and picture hangers, assistant conductors on street cars, care of machinery, canvassers, furnace tending, census takers, stenographers, manual work, surveyors, chemists, wiremen, carpenters, tracers, assistants in power plants, operators of telephones, assistants in architects' offices, instructors and private tutors, salesmen, foremen, chief draftsmen, inspectors, superintendents, engineers in laboratories and outside work in charge of departments, and responsible executive positions.

LIVING ACCOMMODATIONS—Mention should also be made of the work done by this office in housing students. We have on our files addresses of over 200 boarding and lodging houses, every one of which has either been personally investigated by my assistant or myself, or is known to me through a member of our Faculties. Over 500 students have thus been located in good homes.

Respectfully Submitted,

WILLIAM P. FIELD,

Secretary of the Carnegie Technical Schools.

April 4, 1910.

ABSTRACTS FROM THE REPORT OF THE REGISTRAR

TO THE DIRECTOR:—

Herewith is submitted, in a condensed form for publication, my report as Registrar of the Carnegie Technical Schools for the current year. The report consists largely of statistical tables.

1909 GRADUATES—Table I shows the number of students who were graduated on the occasion of the second Commencement, June, 1909, 159 men and 73 women receiving diplomas or certificates. In this group are the first graduates of the School for Apprentices and Journeymen and of the Margaret Morrison Carnegie School. In 1908 the number was 59, all men.

REGISTRATION—The registration for 1909-10 shows a total of 2224, against 2129 for 1908-09. The number of new students entering increased from 1201 for 1908-09 to 1409 for 1909-10. The total of 2224 represents 1722 men and 502 women.

GEOGRAPHICAL DISTRIBUTION—Table IV shows that our students come from 34 out of 48 states and territories, excluding the insular possessions. 74 per cent. of them are from Pittsburgh and vicinity. The number of foreign students has increased from 24 for last year to 65 for the current year, 17 foreign countries being represented.

TABLE I.—GRADUATES OF YEAR 1908-09.

	Day.	Night.	Total.
School of Applied Science	68	..	68
School of Applied Design	3	..	3
School for Apprentices and Journeymen	37	51	88
Margaret Morrison Carnegie School	43	30	73
	<hr/>	<hr/>	<hr/>
Totals	151	81	232

TABLE II.—REGISTRATION FOR THE YEAR 1909-1910

	Day	Night	Total
School of Applied Science - - - - -	290	493	783
School of Applied Design - - - - -	109	84	193
School for Apprentices and Journeymen	264	509	773
Margaret Morrison Carnegie School - -	235	240	475
Grand Total - - - - -			2224

TABLE III.—STATISTICS OF THE OFFICERS OF INSTRUCTION
AND ADMINISTRATION

Officers	School of Applied Science	School of Applied Design	School for Apprentices and Journeymen	Margaret Morrison Carnegie School	Total
Professors - - - -	9	1	.....	1	11
Associate Professors	1	3	.....	.....	4
Assistant Professors	9	.....	.....	6	15
Instructors - - - -	26	9	34	13	82
Assistants - - -	6	4	5	9	24
Lecturers - - - -	3	.....	2	1	6
	54	17	41	30	142
Officers of Administration	- - - - -	- - - - -	- - - - -	- - - - -	12
					154
Deducting names counted twice - - - - -					7
Total - - - - -					147

TABLE IV.—GEOGRAPHICAL DISTRIBUTION OF STUDENTS

	School of Applied Science		School of Applied Design		School for Apprentices and Journeymen		Margaret Morrison Carnegie School		Total
	Day Students	Night Students	Day Students	Night Students	Day Students	Night Students	Day Students	Night Students	
Pittsburgh and Vicinity	140	341	69	77	183	429	207	208	1654
Pennsylvania	90	70	16	10	36	29	18	20	289
Alabama...	...	1	1	...	...	...	...	...	2
Arkansas...	1	...	...	...	...	...	...	...	1
Arizona...	1	...	...	...	...	...	...	...	1
California...	...	...	...	...	2	...	...	...	2
Colorado...	1	...	...	...	...	...	...	...	1
Connecticut	...	1	...	...	...	...	...	...	1
Delaware...	...	1	...	...	...	...	...	...	1
Dist. of Col.	...	1	...	...	1	...	...	...	2
Florida...	1	...	...	...	1	...	...	...	2
Georgia...	...	...	1	...	...	...	...	...	1
Idaho...	1	...	...	...	...	...	...	...	1
Illinois...	1	1	1	...	...	1	...	...	4
Indiana...	...	3	1	...	...	3	1	...	8
Kansas...	...	...	...	...	...	...	1	...	1
Kentucky...	...	...	1	...	1	...	1	...	3
Maryland...	4	6	...	...	...	1	...	1	12
Massachu'ts	...	1	1	...	2	...	...	...	4
Michigan...	1	...	...	...	...	1	...	...	2
Minnesota...	...	1	...	...	1	...	...	...	2
Mississippi...	...	...	...	1	...	...	...	...	1
Missouri...	...	2	1	...	...	...	...	...	3
Nebraska...	...	1	...	...	1	...	...	1	3
N. Hampshire	...	...	...	...	...	1	...	...	1
New Jersey...	4	1	1	...	1	1	...	...	8
New York...	20	12	4	...	8	1	2	...	47
Ohio.....	16	15	6	1	6	7	4	6	61
Oklahoma...	...	1	...	...	...	...	...	...	1
Rhode Island	...	2	...	...	...	...	...	...	2
S. Carolina...	...	1	...	...	...	...	...	...	1
S. Dakota...	...	...	...	...	2	...	...	...	2
Texas.....	1	...	1	...	...	...	...	...	2
Virginia....	1	2	3	...	...	5	...	...	11
Washington	...	...	...	...	...	...	...	1	1
W. Virginia.	6	5	2	...	5	2	1	...	21
FOREIGN									
Australia...	...	1	...	...	...	...	...	...	1
Austria....	...	...	...	...	...	2	...	...	2
Canada....	1	5	1	...	1	3	...	2	13
China.....	1	...	...	...	...	...	...	...	1
Denmark...	1	...	...	...	...	...	...	...	1
England....	...	2	...	...	...	3	...	1	6
Germany...	...	6	...	...	...	1	...	...	7
Hungary...	...	1	...	...	...	2	...	...	3
Ireland....	...	2	...	...	...	6	...	3	11
Japan.....	2	...	...	...	...	...	...	...	2
Mexico....	1	...	...	...	...	...	...	...	1
Norway....	1	1	...	...	...	...	...	...	2
Roumania...	...	1	...	...	...	...	...	...	1
Russia....	3	2	...	...	...	3	...	...	8
Scotland...	...	2	...	...	...	...	...	...	2
Sweden....	1	2	...	...	...	...	...	...	3
West Indies	...	...	...	...	...	1	...	...	1
									2224

Respectfully submitted

A. W. TARBELL,

Registrar of the Carnegie Technical Schools

April 2, 1910

ABSTRACTS FROM THE REPORT OF THE MARGARET MORRISON CARNEGIE SCHOOL

TO THE DIRECTOR :—

Herewith is respectfully submitted a general statement taken from the regular annual report of the Margaret Morrison Carnegie School for the current school year.

In reviewing the work of the school year 1909-1910, it is evident that some very definite progress has been made along lines of systematic organization, correlation of studies, and adjustment of relations between Faculty and students. It has been possible to outline clearly, in some important measure, *what* and *how much* should be taught of given subjects; and also what is to be considered as a satisfactory standard of scholarship in the same. When more time, thought and experience shall further enlighten us, we shall hope to discover the possible *best*, which can grow out of the present good.

It is this possible best basis for work, and its legitimate development, upon which we are now working. The most important work of the Curriculum Committee during the past year has been the correlating of the studies in each Department as much as possible. Also the marking of boundaries where the subjects of one Department overlap another.

The change in the Curriculum, making the Junior year, as well as the Plebe year, *general required* work, has proved successful. There is a better logical development of the first year's work, and a decided advantage gained by the retarding of the student in specialization at an immature age, with insufficient preparation.

The Night School has received much strength through the presence of the Heads of Departments whose subjects are taught in the Night Classes. The instruction and supervision given by them brings them in such contact with the Night Students as to greatly influence, on juster lines, their faculty votes concerning the Night School.

The Faculty has grown in excellence and strength. The management of the student body has been on just and generous lines. I am glad to record that through the many vicissitudes of the year, and the illness of many members, there has been distinct team work in the Faculty—a reflection of which begins to appear among the students.

The student body is in a fair condition of health, and shows less sign, than formerly, of the exhaustion so common in women's schools at this time of year. Therefore, we are able to record a better general average of health, more regular attendance, higher grade of scholarship and an ever-increasing interest in the daily work of the school on the part of the undergraduates.

Since the last annual report was handed in, we have graduated our first Class, both in the Day and Night Schools. Information obtained lately, concerning the graduates, shows the gratifying fact that they are able to accomplish, with credit, the work they have undertaken in various lines of woman's occupations. The Alumnæ show a disposition and endeavor to keep in touch, as much as possible, with the daily life of the school.

In submitting this brief extract from the more detailed report, I must add my thanks for the kind, patient and courteous manner with which you have sustained what is good in this work.

Respectfully submitted,

CLARA LINFORTH WEST,

Dean of the Margaret Morrison Carnegie School.

April 4, 1910.

ABSTRACTS FROM THE REPORT OF THE SCHOOL OF APPLIED SCIENCE

TO THE DIRECTOR:—

The work of the past year has been marked by internal development rather than external growth and increased enrollment. The Faculty has been more efficient, the course of study has been stronger, the standard of scholarship has been higher and the conduct and attitude of the student has been more satisfactory than during any previous year of the School's brief life.

FACULTY—There have been few changes in the Faculty during the past year. Their increased efficiency has been due largely to the fact that an added year of steadfast pursuit of a high ideal for the School and our better knowledge of conditions to be met have developed the Faculty into a harmonious and well-trained body of workers. The practice of holding weekly meetings of the Heads of Departments at which educational theories and methods are critically studied and discussed with the greatest candor and thoroughness has been most helpful in evolving a system of instruction which has proved more than ordinarily successful.

Considerable progress has been made in the development of an important function of the Faculty, the general supervision and direction of the work of the student. The classes have been divided into small groups and an Adviser from the Faculty appointed for each group. The aim has been to encourage closer personal relations between Faculty and students than those which arise from mere class-room instruction, and in the effort the advisers have been successful to a marked degree. A student who from one cause or another falls behind in his work is placed under a tutor, a precaution which has saved several students from ultimate failure. Frequent meetings of the whole group of advisers with the Dean have brought about uniformity of action.

CURRICULUM—The standard courses in Civil, Electrical, Mechanical, Mining, Chemical and Metallurgical Engineering have

been maintained during the past year with even better results than in previous years. The course in Commercial Engineering, a preliminary announcement concerning which was made in the last catalogue, has not yet been opened because of lack of funds.

As the result of constant thought and study on the part of the Faculty during the past two years, both the day and night courses have been revised throughout. After a period of trying out new ideas which were sometimes at variance with accepted methods, we have reached a system which retains the best of the old methods quickened and invigorated by those new ideas which have proved their worth. The open mind with which the Faculty has attacked such problems has made it possible for the School to perform a unique work among engineering schools, one which I believe will soon be appreciated and whose results will be adopted by more conventional institutions. Indeed some of the features of instruction in this School have already been adopted by two leading engineering colleges.

The past year has witnessed a new departure in our Night School work, viz., the admission of special students. The regular courses having become securely established, it was possible to recognize the claims of a new class of students, viz., that seeking instruction in some single subject or group of subjects closely related to their means of livelihood. The demand for such special instruction is very great and if the School is fully to meet its possibilities for good in the community much more must be done in coming years than has been practicable thus far.

SCHOLARSHIP—A rigid standard of scholarship has been maintained, for it has been clearly recognized that the standing of the School must depend eventually upon the value of its product, the graduate. We have acted upon the belief that not only the reputation of the School but justice to the student himself demands that the student who fails to master his work, whether because of lack of ability or want of application, should thereby automatically sever his connection with the School.

Candidates for admissions are now required to complete a public high school course or present its equivalent in practical training before being eligible for admission to this School. This advance in requirements was made on two grounds—first, that it

would be poor policy to duplicate the work of the public schools; and second, that experience has proved that for the work offered by this school at least that much preparation and training was necessary.

NIGHT SCHOOL GRADUATES—At the close of the present year we shall graduate our first class in the Night School. The School is to be congratulated upon the character, ability and stamina of these young men who, to accomplish their purpose of obtaining an education, have practically given up everything in the way of social life and pleasure for five years. The School is also to be congratulated upon the successful carrying out of a regular night course of study for so long a period, something which has never before been attempted in this country.

RESEARCH—Because of lack of funds and the pressure of regular work it has been impossible to do any research work. Your policy of encouraging members of the Faculty to keep in touch with practical work has brought many requests for investigations for which the Faculty has the necessary qualities of mind and educational training and to perform which laboratory space and much of the required apparatus are available. The demand for research is felt in many fields, but in none more strongly than that pertaining to the iron and steel industries. In the absence of school funds application has already been made to the Carnegie Institution at Washington for authorization to undertake investigations along certain well-defined lines.

Respectfully submitted,

JOHN H. LEETE,

Dean of the School of Applied Science.

April 5, 1910.

ABSTRACTS FROM THE REPORT OF THE SCHOOL FOR APPRENTICES AND JOURNEYMEN

TO THE DIRECTOR:—

In the year that has passed since the last Annual Report of the School for Apprentices and Journeymen was submitted to you, we have had an opportunity to observe the fruits of our work in the careers of the first body of young men to be graduated from this school. Last year, at this time, we stood upon the eve of our first graduation exercises, about to send into the world of industry and commerce a class of students who had been under our care and instructions for several years, and who were deemed capable of setting out upon careers in the lines of their chosen profession, or of continuing their studies upon advanced lines. Our hopes for their success were at that time but speculative at best, for while we felt that the training which our students had received was sufficient to meet the demands which would be made upon them, yet there was within us the natural anxiety as to how the first gleanings of our harvest would fare in a future which of necessity must be so full of unforeseen circumstances.

To-day, after a year of observation and experience, it is with more than ordinary gratification and satisfaction that we are able to state that our graduates are proving themselves creditable evidences of the work of our institution. As far as we can learn, every one of them is either working at his chosen calling or continuing his studies along engineering lines in our own School of Applied Science or in other similar schools. Those who are working are earning from \$60.00 to \$150.00 per month, the amounts varying according to the skill and ability of the workers.

PROGRESS OF THE YEAR—Enlarged accommodations and generally satisfactory environments have contributed largely to the excellent progress of our school during the past year. The crowded condition of the year before has been almost entirely eliminated, and now, if we could but add to our equipment sufficiently to enable us to carry out our plans as fully as we have outlined them,

the School for Apprentices and Journeymen will have no difficulty in maintaining its proper place as an important factor in the general development of this institution.

STUDENTS—Our enrollment at present numbers 101 students more than it did at this time last year. This is surely an evidence of the fact that the public at large and the young men of our community in particular are realizing and appreciating the exceptional advantages which this school offers in the line of its specific form of education. There is ample reason for presuming that our enrollment in the future will continue to increase in the same satisfactory manner as it has done in the past.

ADVISERS—An important innovation in our school during the past year was the organization of a body of Students' Advisers. These men are selected from the heads of the departments of our school and are assisted by some of the other instructors. The Advisers keep in close personal touch with the students and offer them the individual advice and encouragement which are so essential in an institution composed of such a varied body of men as make up our enrollment. No personal care of the student is too trivial to receive the attention of the Advisers, and more than one student has become a better man, both in his class and at his work, because of the help and assurance offered him by this advisory body. Our Advisers not only give direct supervision to the work of the students at school but they also solicit the coöperation of the parents of our students and obtain it to a remarkable degree. The relations between our students and their instructors, as well as that between our school and the parents of the students, has been very perceptibly influenced in an advantageous manner by the work of the Students' Advisers.

CONCLUSION—Much as has been our progress in the past, we have by no means decided that we have gone far enough. We shall continue to exert our best efforts for the School for Apprentices and Journeymen, in the hope that each succeeding year will find us at least one step farther onward than did its predecessor.

Respectfully submitted,

C. B. CONNELLEY,

Dean of the School for Apprentices and Journeymen.

April 6, 1910.

ABSTRACTS FROM THE REPORT OF THE SCHOOL OF APPLIED DESIGN

TO THE DIRECTOR:—

Certain matters connected with the work of the School of Applied Design up to this time are of special interest. The most important of these seem to us to be the practical results of our instruction in the fields of art in this community and elsewhere, our search for methods of giving this instruction to the best advantage, and the growth in this School of certain institutions or organizations conducted by its students.

As to the first of these, the only basis for conclusions is given by the work of the Department of Architecture during the four years since it was organized, the other departments being yet too young to have furnished workers in their branches of the arts. The Department of Architecture has already furnished instruction of a serious character to most of the architectural designers and draftsmen in Pittsburgh and neighboring towns, and to many young men of limited means from other places. It is certain that nearly all of them would have been unable to give themselves the benefit of such professional equipment but for the opportunities offered by this School. We have specific knowledge of many cases of young men who have advanced through the instruction received here to a higher efficiency, better positions and pay and toward a more hopeful and useful workmanship and citizenship than they could otherwise have done. It is our constant ideal that all departments of work organized in the School of Applied Design shall produce equally practical results.

As to the methods of instruction employed, it was considered from the first an important policy to so organize our work as to allow the individual to advance in it as rapidly as personal abilities made it desirable for him to do; that is to provide for advancement by individuals rather than by masses of students. This scheme of instruction is one nearly if not quite untried in this country, though it has long been in operation in the best art schools

of Europe. In spite of certain defects when applied to students of the character of ours, it seemed and still seems to us the best for instruction in the arts, where individual talent and temperament are factors of paramount importance. After our experiment of four years the only important danger in it seems to be in the liberty it affords the careless student to neglect his work at the same time that it affords the diligent great liberty in applying his ambition. We do not conclude that the scheme should be abandoned but that it must be modified, and we are now engaged in devising certain modifications which we hope will avoid most of the undesirable effects of it so far observed. If we succeed reasonably well, an important contribution will have been made to educational science.

Of the professional, social and other organizations conducted by the students of the School of Applied Design only, we would call your attention particularly to that known as the Student Senate. The Senate is elected annually by the students and has assigned to it control over cases involving disorderly or dishonorable conduct on the part of students, some cases of abuse of school property and privileges, etc. Both the Faculty and student body refer to it causes for complaint and it consults with the Faculty as necessary. It has acted in good faith, with sobriety and justice to all concerned, and has so far commanded for its actions the confidence and respect of Faculty and students alike. It has relieved the Faculty of much of the business of regulating student conduct to which the time of instructors should not be, but generally is, devoted.

The more detailed report to you which accompanies this will call attention to other matters of importance which cannot be discussed herein.

Respectfully submitted,

HENRY MCGOODWIN,

Acting Dean of the School of Applied Design.

April 4, 1910.

REPORT OF THE AUDITOR

Statement of receipts and expenditures of the Carnegie Technical
Schools for the fiscal year ending March 31st, 1910:

RECEIPTS.

Annual Appropriation	\$257,142.16
Fees from Students—1909-10	45,854.78
Fees from Students—Balance 1908-09	8,932.19
Store Room Sales	\$ 12,534.13
Less Expenditures	11,514.90
	<hr/>
Student Loans returned	\$ 318.83
Student Loans advanced	235.00
	<hr/>
	\$ 83.83
	<hr/>
Total	<u>\$313,032.19</u>

EXPENDITURES.

Administration:

Salaries	\$ 27,927.51
Stationery, Printing, Publications and Postage.	4,008.50
General Expenses	7,033.37
	<hr/>
	\$ 38,969.38

Instruction:

Salaries	\$188,722.86
Supplies	7,243.68
General Expense and Repairs	2,723.93
	<hr/>
	\$198,690.47

Operating Buildings:

Superintendence, Janitor and General Expense. \$	16,411.97
Power Plant Expense.	12,414.35
Building and Ground Expense	8,298.51
Repairs	1,005.31
Insurance	1,968.50
	<hr/>
	\$ 40,098.64

<i>Additional Equipment</i>	5,738.10
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Special Expense:

Grading, Moving and Alterations	13,317.23
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General Fees reserved for Sinking Fund—15%	2,366.60
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General Fees Reserved for Maintenance and Repairs—15%	2,366.60
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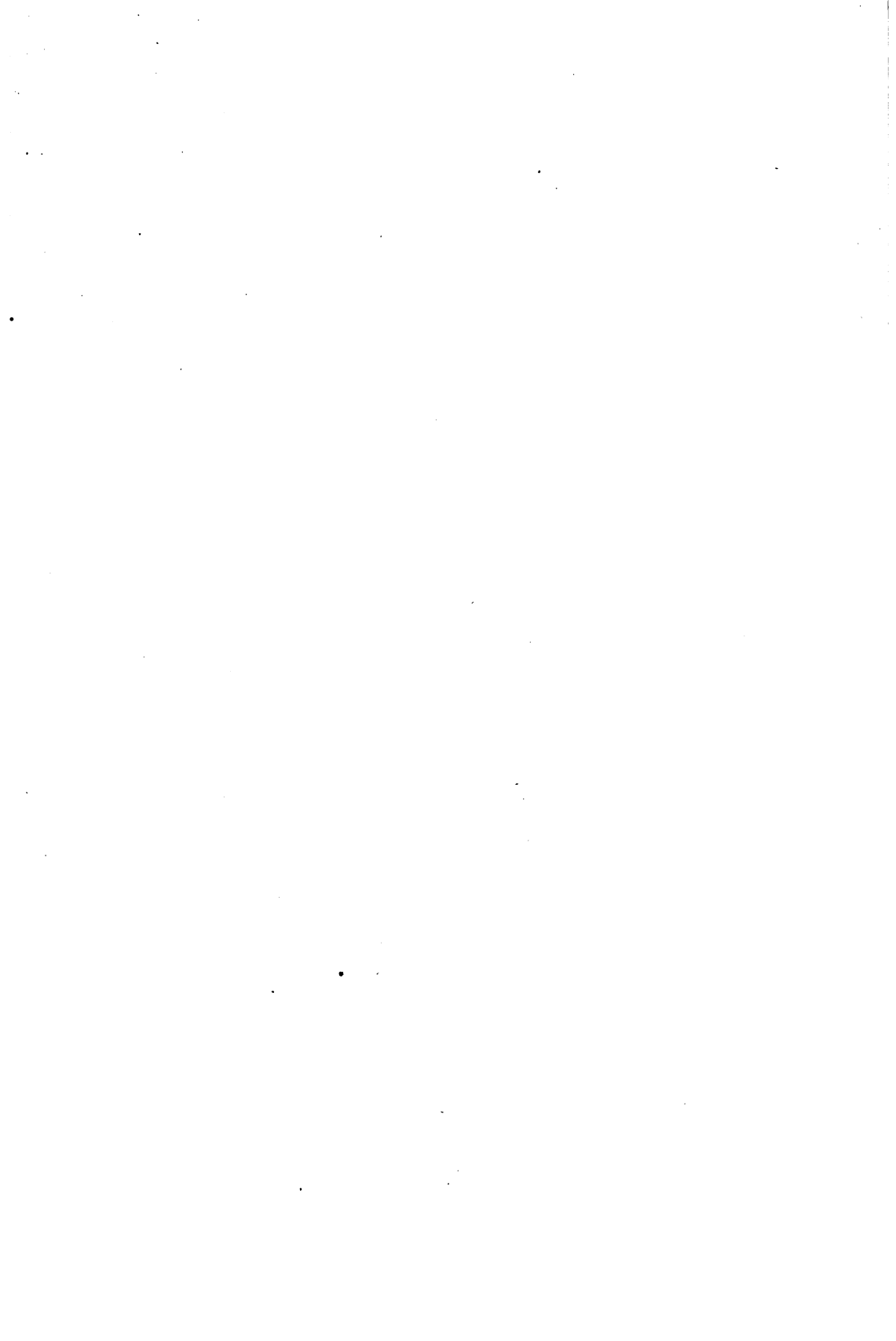
Unfiled Orders and Unsettled Accounts	10,781.60
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Balance, March 31st, 1910	703.57
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\$313,032.19

GEO. F. SHEERS,
Auditor, Carnegie Institute.





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